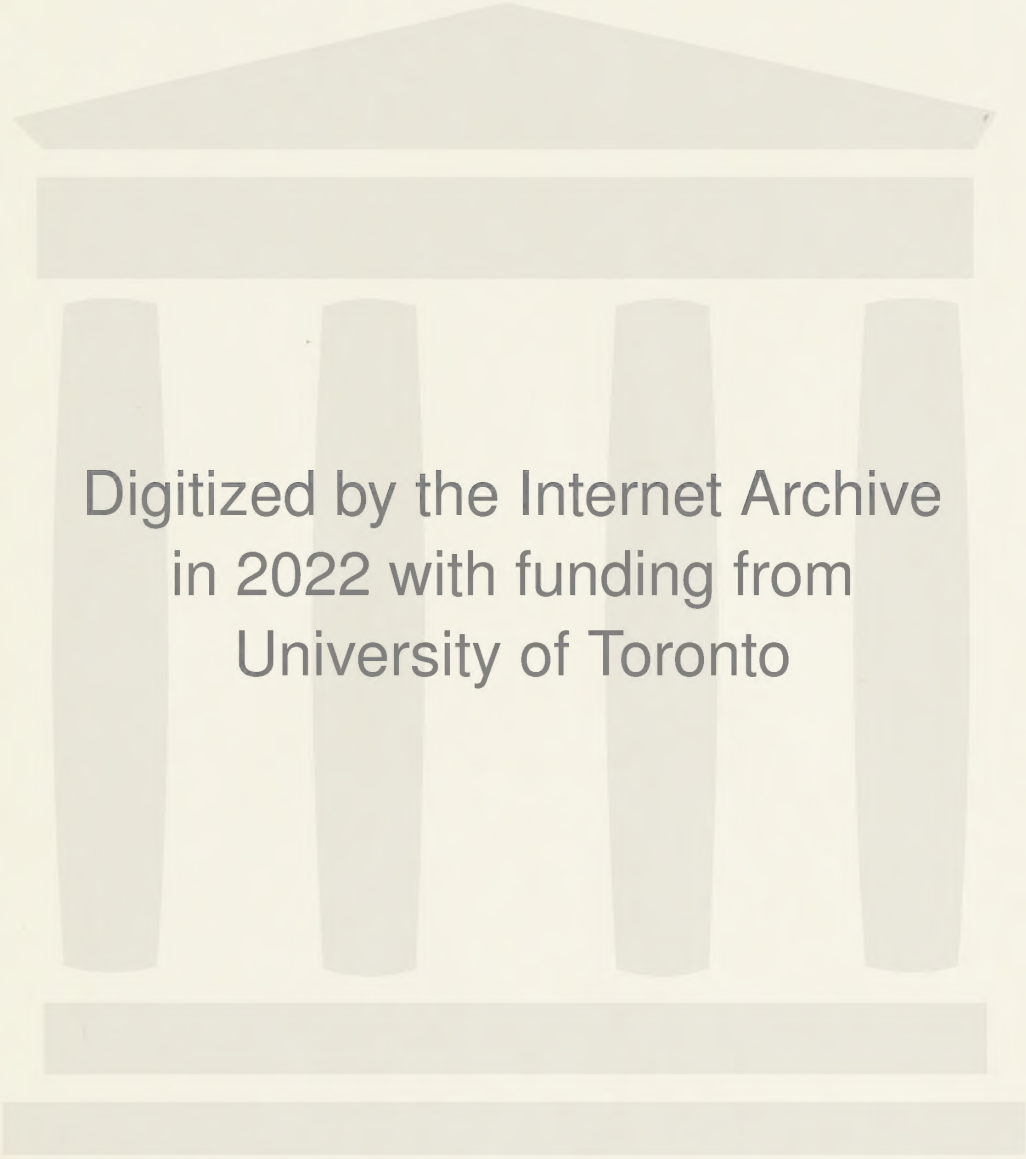

2665

ONTARIO

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE, TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION, IN ONTARIO.

Mr. A. H. Cowling, Chairman,
Presiding.

Dr. F. A. Evis, Secretary.

VOLUME XXIV

Friday, May 11th, 1956.

London, Ontario.

R.C.Sturgeon,
Official Reporter,
Parliament Buildings,
Toronto, Ontario.

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE, TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION IN ONTARIO.

Mr. A. H. Cowling, Chairman, Presiding.

Dr. Fred A. Evis, Secretary.

- - - -

INDEX OF PROCEEDINGS FOR TWENTY-FOURTH DAY,

FRIDAY, MAY 11TH, 1956.

- - - - -

(cont'd)

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE, TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION IN ONTARIO.

Mr. A. E. Cowling, Chairman, Presiding.

Dr. Fred A. Hyle, Secretary.

- - - -

INDEX OF PROCEEDINGS FOR TWENTY-FOURTH DAY,

FRIDAY, MAY 11TH, 1956.

- - - - -

(cont'd)

L U N C H E O N

Peterson, Alderman.	1947
Cowling, A. H.	1949
Cooper, R. H.	1950
Belyea, H.	1952
Bishop, Mr.	1954
Johnston, Mr.	1955 1961
McBride, Mr.	1959
Warren, Mr.	1964
Gordon, G. H.	1972
Elliott, R. E.	1975
Morningstar, E.	1977
Evis, Dr. F.	1978
Thomas, T. D.	1980

- - - - -

TWENTY-FOURTH DAY

London, Ontario,
Friday, May 11th, 1956,
10:00 o'clock, a.m.

- - - - -

The further proceedings of this Committee reconvened pursuant to adjournment.

PRESENT:

Mr. A. H. Cowling, Chairman, Presiding.

Messrs. Brandon, Q.C.,

Morningstar,

Gordon,

Thomas,(Oshawa),

Elliott,

Dr. F. A. Evis, Secretary.

APPEARANCES:

Mr. Harry Belyea,	Hygienic Engineer, Department of Health, Ontario.
Dr. B. M. Smallman,	
His Worship, R.A.Dennis,	Mayor, City of London.
Mr. R. H. Cooper,	City Clerk, London.
Mrs. G. Thomas,	
Mr. Arthur Bradford,	

Mrs. L. Gee,

Mrs. Milan,

Mrs. Osman,

Mr. Skelton, City Engineer, City of London.

- - - - -

THE CHAIRMAN: Ladies and gentlemen, we will bring the meeting to order.

For the benefit of those of you who are here, I might explain that this Committee of the Ontario Legislature is an all-Party Committee, comprised of representatives of all Parties in the House. We are charged with the duty of studying the matter of air pollution and smoke control, both in and out of the province, and to bring in recommendations to the Legislature which we hope will be helpful in solving these problems.

Perhaps I should introduce the members of the Committee. First, on my left, is Mr. Elliott, the member for Hamilton East; Mr. Gordon, the member for Brantford, Mr. Morningstar, the member for Welland, Mr. Thomas (Oshawa), the member for Oshawa, Mr. Brandon,Q.C., the member for West York in Toronto. This gentleman

(indicating) is Mr. Belyea, our technical advisor, and Dr. Fred Evis, the Secretary, and our reporter is taking the notes.

My name is Cowling and I have the honour of being the Chairman of this Committee.

I am sure some some of you would like to address the Committee, and as you do, I will ask you to come forward, and we will be glad to hear whatever you wish to say.

D R. B. M. S M A L L M A N,

appearing before the Committee, but not being sworn, deposes and says:

THE CHAIRMAN: Will you proceed, Doctor Smallman, in your own way?

THE WITNESS: I am representing the residents of the districts of South London. For some five years, we have had a problem there with smoke and odours from an industry, and, if I may say so, we are delighted to have found a Committee which is specifically concerned with these problems, because we have tried with the municipality in years past, and have not been too successful, and we have wanted to have a hearing for the purpose of considering our problems.

I have here (indicating) a petition signed

by 48 members -- 48 householders -- in this district. The district is bounded by Rowntree Avenue, Chester Street, Janes Street, Wellington Road and Whetter Avenue, and the residents wish to register a complaint against smoke and air pollution.

Shall I read it?

THE CHAIRMAN: Yes, please do.

THE WITNESS: The petition is as follows:

"We, the undersigned home owners living on Rowntree Avenue, Chester Street, Janes Street, Wellington Road and Whetter Avenue, register a complaint against smoke and air pollution as outlined below:

A factory operating under the name of Robinson Industrial Crafts, Ltd., 310 Wellington Road South, London, Ontario, manufacturers of Plastic Products and Flexo-Ware Wall Tile, at various times during the day seems to burn waste plastic in their furnace which throws off a heavy black smoke laden with a flaky substance which permanently sets a dye in light coloured clothing, whether it is on clothes lines or persons. The smoke penetrates the homes with all windows closed, causing occupants to choke.

The air is polluted around the various

manholes in the district for some distance away, and when the weather is humid the air is vile.

The properties in the area were bought at prices ranging from $10,000 to $15,000, purchased as residential, one-family dwellings. We knew, of course, that the factory was there, but did not know of this obnoxious situation.

This matter has been taken up with the Township of Westminster and London Health Authorities, but there seems to be little they can do about it."

As I say, that is signed by 48 householders.

BY MR. BRANDON, Q.C.:

Q. Is this plant located in London?

A. In Westminister Township.

Q. How far outside the city limits?

A. About one block. I believe Whetter Avenue is the boundary.

Q. How long since the subdivision was developed -- since these people moved in?

A. Starting in 1951. I think I bought the first house in that district, in 1951.

Q. Has this always been used as a plastic manufacturing plant?

A. Yes.

Q. How old is the factory?

A. I do not know. It was there when I came.

Q. Are there other manufacturing plants in the area, emitting this obnoxious smoke or fumes?

A. Not that I know of.

Q. Are there any other factories in the area?

A. There is one, but not close to us, not close enough to bother us. It is about a half a mile away. This is more or less a residential area.

Q. It is an isolated factory, in a residential area?

A. Yes.

BY MR. BELYEA:

Q. It is two steel and brick buildings?

A. Yes, and smoke is emitted at a level which affects the district.

BY MR. THOMAS (Oshawa):

Q. Have you approached the township?

A. Oh, many times. We have had their sanitary inspector come out, but nothing happens. The housewives will telephone the manufacturing plant, and say, "When will you stop the smoke, so we can put out our washings?". They will say, "In about an hour", and the housewives will put out their washings, and presently

the smoke is coming down again.

BY MR. BRANDON, Q.C.:

Q. Is the plant and the residences in Westminster Township?

A. Yes.

BY THE CHAIRMAN:

Q. Are you a medical doctor?

A. No, I am a scientist at the university.

THE CHAIRMAN: Mr. Belyea, would this come under the present provincial law in regard to exemptions?

MR. BELYEA: There is nothing covering it. The township could write a by-law. No doubt they have not done that as yet.

THE CHAIRMAN: The reason I asked that question, Doctor Smallman, is that as a provincial group, we do not want to criticize a local government, if they are restricted under the present Ontario Statutes.

MR. BELYEA: There are no exemptions. There is no reason why a by-law could not be written, and the thing handled in that way. There is no question about that.

BY THE CHAIRMAN:

Q. This has been going on for how long?

A. Ever since this subdivision was developed.

We have continued to complain to what authority we could reach, and since nothing has been done, the residents now are trying to co-operate with the municipality to see if they can adjust their living operations to avoid these nuisances.

May I develop the odour end of this? It is quite distinct, apparently, from the smoke.

These odours emanate from manholes in the area of the plant, and, because at least one of the residents on the street has worked in the plant, we know how this comes about. The plastics are poured into molds, and it is necessary to cool the molds, and water is used. Mr. Robinson sank a well, and was unfortunate enough to reach sulphur water, so when this is poured over the molds, hydrogen sulfide is given off and the water goes into the catch-basins in the district.

BY MR. BRANDON, Q.C.:

Q. So you have an odour problem as well?

A. Yes. There is one person here whose main complaint is odour, not smoke. There is a small block of flats on the corner of Wellington Street and Rowntree, and one of these catch-basins is right beside it.

BY MR. MORNINGSTAR:

Q. The odour comes from the catch-basins?

A. Yes, when the wind is in the right direction, there is quite an odour.

BY MR. BRANDON, Q.C.:

Q. What about this waste material?

A. We have this waste plastic there, and it is burned in the furnaces. It is even worse than soft coal.

One of the residents has worked in the plant, and knows they burn the waste plastic. One of the officials once said, unwittingly, that if they could stop burning the plastic --

MR. MORNINGSTAR: If you had a trap in there, it would prevent that. A trap would prevent any odour coming back.

MR. THOMAS (Oshawa): If it was a sanitary sewer. It might be a storm sewer, which might create another problem altogether.

---The witness retired.

R. H. COOPER,

City Clerk, city of London, appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Have you anything to say on this subject, Mr. Cooper?

A. The situation here has given the Council of the city of London a great deal of concern over many years, and while I have not been directed to submit any comments to this meeting, I think I could say that the smoke nuisance has not been as much of a problem as the odour from the sulphur water which is used in their processing.

Apparently, when drilling a well for natural water, they struck sulphur water, and the effluent from their operations is discharged into the sewer, which in the township is an open drain, and we have received bitter complaints from the householders on the west side of Wellington, and on Moore Street, because the odour seeps into the houses from improperly-trapped drains. You do not expect to have to trap it to prevent odours, and these houses have been constructed mainly of wood, and since the war many of them have been connected with the storm sewers, even though the houses were constructed prior thereto, and there are the most obnoxious odours, and we receive bitter complaints about them.

We have been endeavouring to secure co-operation from the factory, by having them drill another well, so the water can be dropped down again, and be trapped, so the odours cannot get into the houses.

In other municipalities where similar drilling created a similar problem, in that they struck sulphur water for their coolant, they have solved the problem, at least to some extent, by drilling another well on the same property, which can take care of the sulphur water from the original well, by allowing it to drop back again. By having the water back down again, there are no obnoxious-odour problems created, but our efforts to secure the co-operation, have been without avail.

Recently we secured an opinion from the City Solicitor, who suggested a by-law which would prohibit the material from getting into the storm drain.

It is a problem not only in the township area as has been described here, but there are other small plants --

MR. BRANDON, Q.C.: Apparently the township has not a prohibition by-law?

THE WITNESS: To the best of my knowledge, it has not.

BY MR. ELLIOTT;

Q. The city has not had the by-law amended to take care of the traps for sewers?

A. No.

Q. Not even now?

A. I think they would recommend it, but there is nothing of which I know which exists at the present time.

Q. Your by-law does not insist on traps?

A. No.

Q. So anybody still building might get into trouble through that lack, right now?

A. Yes. I think we should recommend a trap located four feet outside the wall. That is the normal procedure.

MR. BRANDON, Q.C.: Doctor Smallman, may I ask a question? Does the owner of this plant co-operate with the people in the area, or does he simply sit back and do nothing, considering that he is the master of the situation?

DOCTOR SMALLMAN: No, he does not co-operate.

MR. BELYEA: I do not think he co-operates with anybody.

DOCTOR SMALLMAN: When you telephone him, he seems to agree, but he does nothing. He says the smoke will stop in an hour, but it goes right on.

MR. BRANDON, Q.C.: Does he operate six days a week, when the plant is open?

DOCTOR SMALLMAN: I believe it happens seven days a week.

MRS. GEE: Not on Sundays as a rule, but you cannot depend on that.

THE CHAIRMAN: So your wash day is Sunday?

MRS. GEE: No, but it is not so bad sometimes on Sunday.

THE CHAIRMAN: Thank you, very much.

MR. BELYEA: Has anybody been in touch with the Public Health Unit, or the local sanitary inspector?

THE WITNESS: With regard to the odour problem?

MR. BELYEA: Yes.

THE WITNESS: I would say Mr. Sharpe of the Health Unit has a complete file on that. We called them in about a year and a half ago or two years, but we could only ask for co-operation. We went over it at a meeting of the City Council and Doctor Berry, after Mr..Sharpe's report.

THE CHAIRMAN: We find that the Ontario citizens, generally, are long-suffering people. We had just such a case discussed in Brantford yesterday, and we hope the Committee will be able to do something to help you.

MR. GORDON: This problem could be eliminated if the Company could find some other way of disposing of its waste material, as far as the smoke is concerned.

The reason you get the smoke and the fly ash is because they are burning this waste material. What do they use for fuel? Soft coal?

DOCTOR SMALLMAN: Soft coal, although he has assured us for some three years that he will instal oil.

THE CHAIRMAN: Some day?

DOCTOR SMALLMAN: Some day, yes.

THE WITNESS: It would be our belief that the owner of the plant can remedy both situations very easily, by hauling it to the city dump, and paying a disposal charge per truck load; then there would be no need to burn it. That would solve one situation, except for normal fly ash from soft coal.

But as far as the sulphur water is concerned, what is needed as a remedy might involve an expenditure of $600. or $700, to drill an additional well for the disposal of the effluent.

THE CHAIRMAN: It sounds like a case of non-co-operation in both respects.

THE WITNESS: Yes, and it may be the township will have to pass a by-law.

---The witness retired.

THE CHAIRMAN: Is there anybody else who wanted to speak on this particular matter? I think it

was pretty well covered by Doctor Smallman. It is rare indeed if the ladies do not have something to say.

MRS. THOMAS,

appearing before the Committee, but not being sworn, deposes and says:

THE WITNESS: We are the owners of an apartment building on the corner of Rowntree and Wellington Streets, and we have had a number of complaints.

BY THE CHAIRMAN:

Q. You are just supporting the other speakers?

A. Yes. Also, we have had complaints about the smoke. But the smell is something which is annoying, and about which we have had a number of complaints.

The smoke bothers the throats in our family, and we can tell in the morning which way the wind is blowing by the way the throats feel.

We telephoned him when we had our children coming out of school, and he assured me he would stop it, but he never has.

Q. When it starts to affect the health, particularly of the children, it becomes a serious matter.

A. Yes. Very often, someone is home sick and it has affected our throats. It definitely is the smoke which is doing that.

---The witness retired.

A R T H U R B R A D F O R D,

appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. We will be glad to hear you, Mr. Bradford.

A. I did not have time, since I received your letter --

Q. I have your letter here. (See page 1982 et seq.)

A. I sent a letter in regard to a woman who had lived for thirty years around the roundhouse. As you have said, Mr. Chairman, people are long suffering, and I am sure there are hundreds in the area who, if they had the time, and were cognizant of this meeting, would have been here.

Q. We realize it may be a question of taking time away from work.

A. I have lived in this area for six years, and actually for the first four and one-half years, the smoke did not bother me too much. I do not know whether -- as this lady suggests in her letter -- it

is the carelessness or lack of skill in stoking, but in the last year and a half the smoke problem seems to be three or four times as bad, as far as I am personally concerned.

I am sure, in my own case -- I have a friend who lives three blocks further away from the roundhouse than I do, who has for some time had to close the bedroom window at night to keep out the gas, and she came to the conclusion, after having the gas people check her place a couple of times, that it was from the diesel locomotives, the wind blowing the discharge from the diesels, which are used mostly for shunting.

BY MR. THOMAS (Oshawa):

Q. At the roundhouse?

A. No. She is three blocks away. She lives on Adelaide Street. The diesels operate in the yard and give off a great deal of gas.

I had the gas people up inspecting the place, as I thought perhaps it might be fumes from my own gas-burning plant, but it is either gas from the coal, or gas plus diesel fumes which give us the headaches on occasion, and make it necessary for us to close our windows.

I live near the railway, and expect a little coal dust on the washings occasionally, but it has

become much worse in the last year and a half.

BY THE CHAIRMAN:

Q. How do you account for that? We have been told the railroads are dieselizing as quickly as they can, and they have more now than they had four years ago. Would you not think the nuisance would be reduced?

A. I cannot give a reason for that. One partial reason in our case might be that the engines steam up in the vicinity of the coal chute.

Q. Are you near the coal chute?

A. Yes. The wind has been in the wrong direction for the last few days, and the stuff pouring out of the roundhouse has been very dense and black.

Q. When you communicate with the roundhouse, do you get any co-operation?

A. I have not tried that. From your letter, I discovered it was a Federal matter, so I have personally not made such a test.

I mentioned it to one of the Council members, a friend of mine, who said I should not have bought over there. I did not pursue that any further.

Q. Who was there first, you or the roundhouse?

A. The roundhouse.

Q. The reason I am asking that is that in the

big cities there have been a great many coal-burning locomotives, but they have been pretty well replaced by the diesels, and, with regard to the smoke problem, they just do not have it any more.

A. They have some shunters, and if you walk through the roundhouse, you would see there would not be any more slots not occupied.

MR. ELLIOTT: Perhaps the total number has increased, steam engines and diesels as well.

THE WITNESS: Some of the older steam engines have been taken away. I have seen them going. But they seem to be busy --

BY MR. BELYEA:

Q. You spoke about diesel gas: do you recognize the distinction between a typical diesel gas smell, and a public utility gas supply? Is it the same, or is it irritating to the nose and eyes?

A. I have not been very good at distinguishing --

Q. Your diesel odour is quite distinct from the gas smell.

A. All I know is, when I step in the front door, I can smell it in the house, but I cannot tell --

Q. You have not noticed it outside?

A. Not to that extent. It seems at times it boils up. It does not seem to be present all the time.

Q. Can you tie this in with the one from the railway siding?

A. Not fully.

Q. We know that the diesels and steam locomotives give trouble, and everywhere we go, where there is gas, there is trouble with their own system, and it is a serious matter. It can become very dangerous.

BY THE CHAIRMAN:

Q. As far as you are concerned, the diesel programme is not too bad?

A. No. In my area, the smoke problem has been a great deal worse in the last year and a half than I have every known it.

On a general note; I know you are interested, generally, in the fumes from automobiles and diesel buses, and I have noticed in the last eight years, since they changed to diesels in cities, and the number of cars has increased. I hope there will be something done so that these discharges can be burnt in some way.

BY MR. BELYEA:

Q. How long is it since they put the diesel buses on?

A. They have been gradually changing, and I think now they are all diesels.

Q. Have you noticed the diesels are getting worse in the last few years, which would seem to indicate improper maintenance?

A. Perhaps, but I think it is more the way the drivers start.

I think that is about all I have to say.

THE CHAIRMAN: Thank you very much, Mr. Bradford. We have your correspondence, and I think we can do something to help in that situation.

THE WITNESS: Thank you, Mr. Chairman and gentlemen. I just wanted to indicate there was smoke up there.

---The witness retired.

THE CHAIRMAN: Is there anyone else who wishes to address the Committee?

M R S. L. G E E,

appearing before the Committee, but not being sworn, deposes and says:

THE CHAIRMAN: We shall be very glad to hear what you have to say, Mrs. Gee.

THE WITNESS: I think you have some correspondence from my husband here.

Since we have been writing to you, and received your replies, I have kept a bit of a check on smoke we

have on the street. We have lived on the street for eight years, and are just south of the Canadian National roundhouse.

BY THE CHAIRMAN:

Q. You are near the Canadian National roundhouse?

A. Yes. When we have a north wind, or slightly northeast and northwest, we certainly find out about it.

I am not so much concerned with the washings, as they can be cleaned again, but the health of the children is really the important matter.

These are some of the examples of the smoke we have had since the beginning of March, or rather, since March 20th:

"March 20, 3:07 p.m. Smoke in street like fog.

March 25, 12:45 p.m. Sunday. Coming north on Rectory St., returning from church, thick black smoke crossing Rectory eastwards -- couldn't see beyond it.

March 26, Sunny day. Hung nylon underwear and nightgown on line, thinking wind from west. On bringing in clothes found them so dotted with soot which wouldn't shake off, had to wash them again. Smoke coming over thick and smelly as wind had changed to north.

April 8, 3:00 p.m. Sunday. Smoke like fog in

street, and smelly as could be. Children out playing in this smoke.

April 9, Smoke coming over so that I couldn't hang out any blankets.

April 13, 9:15 a.m. Put out garbage. Air thick with black smoke.

April 15. Sunday. 1:30 p.m. Tree, 50 yards away from our window, obscured by smoke.

April 24, 9:05 a.m. Room went dark. On looking out to see if it was getting cloudy, found it was a pall of smoke passing overhead and down the street. Had to turn on electric light.

April 30, 8:55 a.m. Put out garbage to find air thick with smoke. Clouds of smoke pouring over from roundhouse. Would be impossible to hang our clothes and expect them to remain clean.

May 3. 11:15 a.m. Thursday. Bright sunny day, but at moment our street is full of black smelly smoke -- just like a fog.

May 7, 11 a.m. Monday. Hanging out socks and jeans but smoke coming over -- smell it, and came indoors to find specks of soot on my face.

May 10, Thursday, 9 a.m. Smoke from roundhouse simply pouring over street and back yard. I was out in it, and it was like a fog swirling around us."

We do not even want to wash our hair, on account of it.

I will tell you what I did yesterday morning. I was talking to my neighbour, and I put out two clean rags, and they were only out about two hours, when I went out to take a look at them. They were perfectly clean rags to start with, and had been out just two hours.

As far as the washings are concerned, the clothes can be re-washed again, but when it affects the health of the children, we cannot do anything about it. That is my complaint.

I have one other complaint. My husband is a teacher, and we are away for two months in the summer. We do not always rent our house, but we had a letter from a friend in Nova Scotia saying the brother-in-law was coming here to take a course, and wanted to bring his family to London. I warned them about the smoke, but they thought I meant an occasional train going by, so they came up and rented the house for two months, and left at the end of the first week.

Of course, we refunded their money, since they

were more or less friends, and we did not want to have any hard feelings.

He said he was actually choking with smoke, and he did not want to stay any longer, because he felt it was injuring the children, and he left the end of the first week, and it left us in quite a turmoil, because we were many miles away.

BY THE CHAIRMAN:

Q. Do you notice any difference with the diesels?

A. We do not have many diesels around there. I think they are mostly steam engines. We have the smoke, so it cannot be the diesels.

BY MR. BELYEA:

Q. Mrs. Gee, have you noticed any damage to nylons?

A. No, I cannot honestly say that I have.

BY THE CHAIRMAN:

Q. It is just dirt?

A. Yes, it is just dirt. On a bad day, you get everything covered with soot, and after you iron a shirt, the collar will get nice and black, so it must be coming right down. I think that must be harmful for the children. Quite frankly, it is our hope to get out of the district as soon as we can, but many of them will have to remain there.

BY MR. BELYEA:

Q. I believe you said you have to keep your windows closed?

A. I will tell you this; in the summer, you have your windowsills covered with soot. You can wash them every day; in fact, you have to.

In the winter, with the storm windows on, it is not quite as bad, so we do not get as much indoors, but in the summer time, when the windows are open, the sills and the blinds are just black in a very short time.

Q. Does it go on in the evening, after you have gone to bed?

A. It seems to go on all the time.

BY THE CHAIRMAN:

Q. Twenty-four hours a day, seven days a week?

A. Just about. It cuts down a little on Saturday afternoons, but it starts to build up again on Sundays. On Sundays, coming home from Church, we have seen the smoke just pouring over us.

Some of the ladies can tell you more about the summer, because we are out of town for a month or two, but when we are there, it is pretty bad.

THE CHAIRMAN: Thank you very much, Mrs. Gee, for coming down. We hope we will be able to help out

in your situation.

THE WITNESS: I certainly hope so. We would all appreciate it very much.

---The witness retired.

MRS. MILAN,

appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. What have you to say to us, Mrs. Milan?

A. I have a blouse here which will show what came over yesterday.

Q. We have heard about these washings, and are glad to see a sample of them.

A. It is very discouraging, when you have four children in a family, to have to wash these things all over again. This was not one of my best blouses, and that is why I put it out. It shows what actually happens.

Of course, it is not as bad as it could be. Mrs. Gee, on the other side of the street, actually gets more smoke than we do. We get it from the engines and we have complained to the roundhouse, and I have been told that the foreman actually laughed. I do not think that is very nice. We do not think we

should have to put up with that all day.

On one Sunday recently when I came home from church, I found I had a nice black streak across my nose. Whether I sat in church with that or not, I do not know.

We have to put up with that every day in the year.

Before moving to London, I never had a doctor for the children, but this winter I have had to have the doctor for sore throats. I think it is the air. I cannot see anything else for it.

We are all working people who cannot afford to live in better parts of the city and raise families.

Q. How long have you been living there?

A. Six years.

Q. Why did you move there in the first place, when you knew the roundhouse was in the vicinity?

A. Not being familiar with the city of London, we did not know exactly what we were getting into. My baby was due in one month, and we had to have a house, and naturally we took one which fitted our purse. I learned the hard way, because when my baby was born, and I hung out the washing, the diapers would come off the line so black that I could not get them clean for three weeks. That taught me a lesson, and

I have never hung out washing like that again.

It seems to me a great deal of the smoke is unnecessary, but when you go to the roundhouse, you find yourselves choking with the smoke. When they get all these complaints, why do they not cut it down?

THE CHAIRMAN: They can, I believe.

BY MR. ELLIOTT:

Q. Are there any diesels in your vicinity?

A. There is old machinery. I cannot say there are many diesels on the Canadian National.

Q. But has there been any improvement in the last ten years?

A. I have lived there for six years, and I have not noticedany change. There is one lady who has been there for fourteen years, and perhaps she can tell you more about it.

I am like Mrs. Gee; I am disturbed about the health of the children, but we cannot afford to move out into another area.

THE CHAIRMAN: Thank you very much for coming down, Mrs. Milan.

MR. MORNINGSTAR: Has the city a by-law to control this smoke in any way? In some cities, they have, as we have found out.

THE CHAIRMAN: Fortunately, we have His Worship

the Mayor here. However, I think we should hear from the other lady before we call upon His Worship.

---The witness retired.

MRS. OSMAN,

appearing before the Committee, but not being sworn, deposes and says:

THE CHAIRMAN: Mrs. Osman, we will be glad to hear anything you wish to say.

THE WITNESS: My complaint is the same as Mrs. Gee's. I have been there fourteen years this month, and the smoke we get is terrible.

BY THE CHAIRMAN:

Q. You have been there fourteen years?

A. Yes.

Q. Has there been any change?

A. No change.

Q. It goes right on?

A. Yes. If you complain, they will cut the smoke down for a little while.

Q. Has there been any organized smoke committee formed by the citizens in the area?

A. That I cannot tell you. I think something could be done about it. We have to live there. Nearly all of us own our own homes, and when you look

for a house, you do not look for smoke and dirt.

It has been very discouraging. I am there alone with my grandaughter. I would have liked to move a long time ago.

THE CHAIRMAN: We hope we will be able to help you.

THE WITNESS: I think it was seven years ago they were going to do something. When Mrs. Murphy lived on the street, she complained, and I think at that time they said they were going to do something.

THE CHAIRMAN: Of course, we have to look at it from the provincial level.

THE WITNESS: When we first went there, the neighbourhood was very good, apart from the smoke from the railway, but now they are building up a great deal, but I do not mind that, because we do not get the smoke and dirt from that.

When you have worked so hard to get your place looking decent --

THE CHAIRMAN: I know just what you are talking about, because I have a roundhouse in my own riding, so I am familiar with these complaints.

On behalf of the Committee, we thank you very much for coming down and appearing before us.

---The witness retired.

THE CHAIRMAN: We have His Worship, the Mayor of London with us, and I am sure we would all be glad to hear a few words from him.

R A Y A. D E N N I S,

Mayor, city of London, appearing before the Committee, but not being sworn, deposes and says:

THE CHAIRMAN: Your Worship, would you just proceed in your own way, and tell the Committee anything you wish.

THE WITNESS: Mr. Chairman and gentlemen, there is not much I can say in addition to what the ladies have already said.

On many occasions, I have had these complaints, of course. I have taken the matter up with the superintendents of the railways, and they have promised they would look into the matter and try to curtail the nuisance. Their argument is, if you want railways in the city, you must be prepared to have some smoke until such time as they become fully dieselized.

They claim the smoke nuisance is largely brought about by the fact of carelessness or neglect on the part of the operators of their roundhouse or locomotives. They are quite free to admit that with proper operation, the nuisance can be reduced to

a great extent, and that it is brought about at different times because of some carelessness on the part of the people in charge of the locomotives.

As far as I know -- and they have so told me -- they have tried to do everything they can, which is within their power to eliminate, as much as possible, the nuisance, but the human element enters into it to a large extent. I am simply telling you what they told me, that every so often, some employee fails to take the necessary precautions, and brings about conditions which are very bad.

We never have had any power, under the regulations or by-law, to lay any charge or endeavour to bring any prosecution, and the condition simply continues on. I know that our people have to put up with it.

I have been shown houses which have been painted, and in a very short time they were in as bad condition as they were before they were painted. I am inclined to think it is not the way it was a few years ago. I think the adding of more diesels will cut some of this down, but as long as the coal locomotives are there , there is going to be smoke.

I do not see all the people who have made complaints about the smoke here this morning, and since

I have been here, the complaints have been chiefly against the roundhouse.

There was a time when we had a great number of complaints concerning different industries, but these have been largely eliminated, because the Council has called upon these different industries, and I believe they have co-operated to the extent that there are very, very few complaints concerning industries, and yet the complaints are still quite numerous at times in connection with the railways, and not always the roundhouse, either. Sometimes they concern smoke from moving trains, and the superintendents tell me there is no reason why excessive firing should take place within the residential limits of the city. If a train is properly operated, there can be sufficient steam generated which will carry the train right through the municipality, without having to do much heavy firing, which causes this heavy smoke. That is impressed upon the firemen, but they do not always observe it.

I would say the chief complaint is not from moving trains, but from the roundhouse.

Unfortunately, the roundhouse is situated where people are living close around it. Whether the roundhouse was there first, or the people, I do not

know. It would be an ideal situation if the roundhouse could be located somewhere outside of the residential area.

I have discussed that with the superintendents, and they claim the roundhouse was built originally when there were no residences there, and it would be very costly to change it.

I do not know of anything further I can say. I have a great deal of sympathy for those who have to contend with that condition, and just how it can be corrected, I do not know.

BY THE CHAIRMAN:

Q. How old is the by-law in London? Is it a recent one, or have you revised it lately?

A. We have a by-law, but I do not think it was ever finalized.

MR. COOPER: I was going to report that to the Committee. The by-law is only about one year old. We had one possibly about a year and a half ago, but after it had been circulated, the Council decided that some of the requirements were unduly onerous, and took some of them out.

One of the requirements was that if a plant was to be erected, it was necessary for them to have the proper equipment, before the installations were all

made. Actually, we have not the personnel set-up to enforce the by-law. The by-law is fairly modern, and there is a committee appointed by the Council, known as the "Air Pollution Advisory Committee", which meets every once in awhile.

About two months ago, we had a meeting with one industry about these complaints. We called in the Cordage plant, and our chief engineer, and we sat down and talked over the problem, and I do not think there has been a complaint about that industry since.

Our enforcement officer is the building inspector and architect, who is quite anxious to see that any infraction is brought to their attention.

Rather than enforce the by-law by way of prosecutions in court, we are trying to secure the co-operation of industry, and so far our efforts have been successful. In regard to the railroads; I agree with what His Worship the Mayor has said. The superintendents are most co-operative, but when they have inexperienced personnel working on green fires, it creates a serious smoke problem, and we realize the difficulties under which the people are living at the present time.

THE CHAIRMAN: What are the penalties, under the by-law?

MR. COOPER: There is a penalty of so much for the first infraction, and so much for the second and third. It seems to me we are in need of revising the by-law, and under the Municipal Act, it has been raised to $300.

THE WITNESS: I would like to repeat again, Mr. Chairman, -- to verify what Mr. Cooper has said -- that the by-law, while we never try to take any prosecutions under it, the moment there is a complaint, as far as industry is concerned, it has been brought immediately to the attention of the industry, and so far there is no question but what there has been a great improvement, and, in some cases, the nuisance to a large extent has been almost eliminated, and the complaints from industry have been greatly reduced. I think that was brought about because of our by-law. While we did not prosecute, they knew about the by-law, and when we have a complaint, we take it up with industry, and the situation has been greatly improved. We very seldom have a complaint about industry.

The railroad situation is the one which is the most troublesome. I believe our by-law is set up on the basis of where you have equipment and get a certain degree of smoke, they have certain evidence to prove that they have the proper equipment,

before they can proceed, and before they can receive permission to go ahead. Because we say that there is too much smoke, if we prosecuted, the magistrate would probably say the evidence is not sufficient for him to enter an conviction. You must have the actual density of the smoke to lay before a magistrate. I do not think we would have any difficulty getting that at times, from the railways, but you would have to have a qualified inspector. I do not think the magistrate would say that the report we would make of the equipment which would determine the density, would be sufficient, and the equipment would have to be in the hands of somebody who was qualified to use it.

If we could find some solution from the railway angle, I think we would correct the whole problem, because industry is not causing any trouble at all.

THE CHAIRMAN: We are very pleased to hear that, Mr. Mayor, because certainly the nice way to do anything is by co-operation, and we are pleased to know that your industry in London has very definitely co-operated.

THE WITNESS: I do not want to leave the impression that the railways have not. As far as the superintendents are concerned, on every occasion

brought to their attention, some effort is made to do something about it and, as Mr. Cooper said, and the lady explained, -- and now that the ladies are gone, perhaps I can say that I do not agree with what one or two of them have said. Maybe I would not have said that if they were sitting here, but I see they have gone now.

I do not believe it is a general twenty-four-hour occurrence. Naturally, when it comes occasionally, they are inclined to say it is going on all the time. I do not think that is so. I think you will find there are a good many days when they have nothing about which to complain. But every once in a while, when it gets so bad, it sticks in their minds, and they think it is going on all the time, when really it is only occasionally, maybe quite occasionally; perhaps two or three days a week. Is that not right, Mr. Cooper?

MR. COOPER: Yes, Mr. Mayor. I think, Your Worship and Chairman, that one of the difficulties is caused by inexperienced help in the roundhouse in regard to the lighting of fires and getting the locomotives ready to be taken out. An experienced man can control the smoke when preparing a locomotive for a run. He has done it many times, and can keep the smoke within

reasonable limits, but if you get a green hand, or somebody who does not care about what is coming out of the stack, you have real trouble.

Mr. Johnston, the General Superintendent of the Canadian Pacific Railway, was Mechanical Superintendent for this division before he assumed his present position, and he is in a position to know what good and poor firemen can do. When he receives a complaint, he rakes the responsible person over the coals, and we do not receive too many complaints.

I think without question, the superintendents are anxious to be helpful, and they realize that when there is excessive smoke, they are really pouring money out of the stacks.

We have had fine co-operation, and you cannot actually penalize anybody. When there is a complaint, we send a man out to take observations, and he determines which stack the smoke is coming from, and then the superintendent, from his records, can decide which fireman was firing the locomotive at the time, and that man receives a demerit mark against him, or he is given a good "telling off". Then I think, for awhile, he probably observes the requirements.

There are smoke eliminators, or steam jets, on practically all of these locomotives, but the

operators, in some cases, do not like the steam jets and a man simply shuts off the equipment, and we have no punative power, and all we can do is to endeavour to co-operate, and to receive their co-operation.

There are many changes in personnel, and you cannot expect new employees to work at 100 per cent. efficiency right from the start; you have to train them, and that perhaps is creating a real problem.

THE CHAIRMAN: Have there been any complaints about the roundhouse?

MR. COOPER: Very often delegations come here, and they appoint a spokesman, and after the complaint is registered, we pass it on to the proper railroad, or the industrial plant, and the problem seems to diminish and the people go back to their gardens or the golf clubs, and the delegation disbands.

Industry has co-operated splendidly, as His Worship the Mayor has said.

I think there have been hundreds of thousands of dollars spent on combustion equipment. We know of cases where they have spent large amounts of money in a new plant, to rip part of it out and rebuild it, to have the job done, such as we require.

As I have said, smoke going out of a chimney is money going out of the stack, and industry does not want that to happen.

THE WITNESS: I think I was the Chairman of the Smoke Committee when it was named, and I appointed three combustion engineers in the city. Industry knew that we had members on that Committee who knew something about how to control smoke, and the minute there was a complaint concerning that industry, they knew we had the personnel on the Committee which could tell them how to correct it, and if they did not, they knew that somebody would be there to "tell them off". I think that has had a great bearing on the improvement in industry, because they knew this Committee was set up.

THE CHAIRMAN: And they knew that you knew.

THE WITNESS: Yes. As Mr. Cooper has said, they immediately realized they had to do something about these complaints, to correct the situation.

We have places in the centre of the residential area and in the commercial area, and I know from personal experience that occasionally we have had complaints concerning ourselves, and I have laid down the law that it had to be discontinued, and the boilers had to be operated to eliminate it entirely, which could be done, particularly with stoker conditions.

There is no doubt the railways can eliminate it to a point where there will not be much about which

to complain, but you cannot have coal-firing locomotives without having some smoke, and anyone who lives alongside a roundhouse, will have to put up with some of it, but it can be reduced, if the railways do something about controlling their personnel. It is all in the hands of the people who fire the boilers, and the railways have control of those who are in charge of the firing. Whether they exercise that control or not, I do not know.

BY MR. BELYEA:

Q. Has anybody communicated with the Board of Transport Commissioners?

A. Not as far as I know.

Q. Under the Transport Act, the Board of Transport Commissioners have jurisdiction over the railroads.

MR. COOPER: We ascertained the powers of the Commission, but we have not actually laid a formal complaint. We have endeavoured to get the superintendents to check up their men, and endeavour to diminish the smoke nuisance. The management of both railways I think are anxious to co-operate.

THE CHAIRMAN: May we digress for a moment, as the press is here, and I understand they want to get a photograph.

---Whereupon a short recess was had.

---Upon resuming.

DOCTOR EVIS (Secretary): Mr. Mayor, and Mr. Cooper; I would like to mention that the railways, wherever we have gone, seem to use this excuse, that it is green personnel causing the smoke. In Philadelphia, before they were completely dieselized, they had a railway man with 45 years experience, who went to investigate, and the superintendent said, "That is a new man", and when they investigated further, they found that what they called "green men" were those who had been working on their jobs from five to ten years, and he could not find a single green man causing any smoke.

MR. COOPER: They are simply careless.

DOCTOR EVIS (Secretary): So the city started to fine the guilty parties $50.00, and the matter stopped.

MR. GORDON: When we were in Windsor, this same matter came up about firemen who were causing smoke, receiving so many demerit marks, until the firemen got together and appointed one of the engineers of the railway who appeared before the Committee, and the complaint was concerning the material they had on hand, which was simply a small piece of pipe, and did not do the job at all. They said it was equipment

which really should be scrapped, but they were hanging on to it as long as they could, and the firemen could not do the job with the old equipment, and were being penalized for doing something they could not help.

MR. COOPER: Apropos of that; we went into this at great length with a large delegation which met in the Council Chamber, and it was said that the people who work for the railways like to live near the railways, and a large number of people who were in the audience complained about the smoke, and the railway employees were the people who said it could be controlled. They said if a man is interested in his job, and is conscientious about it, he will eliminate the smoke, and the superintendent of the railway knew every man who was there, and he corroborated what they said, and Mr. Johnston, having come up through the ranks, and having graduated from mechanical superintendent to be the Superintendent of the division, really "knows the score", and knows whether a man can abate the smoke with the equipment they are using, and it was the men who were actually railway employees who said their fellow workers on the railroads are not doing a good job.

THE CHAIRMAN: Mr. Gordon was speaking about the people on the line, and these people were more

concerned with those employed in the roundhouse.

MR. COOPER: I do not know whether they put their more experienced firemen in the roundhouse, or on the runs.

THE CHAIRMAN: The men in the roundhouses are the men who light the engines, and I think it would be the people in the roundhouses, rather than the people who actually do the firing on the runs.

MR. ELLIOTT: The smoke inspector said he made a run in the cab of a locomotive from Windsor to Chatham and London, and there was no smoke, but when he was not with them, there was always a great deal of smoke. He admits they could do it.

DOCTOR EVIS (Secretary): If the superintendents are really sincere in co-operating at the roundhouses, they can do something immediately, instead of waiting for a number of people to complain.

MR. COOPER: Their offices are a long ways from the roundhouse.

THE WITNESS: I do not know whether it can be done at this late hour, but I think it would be very helpful if I could get the two superintendents to sit with us at luncheon, and get their version of what the problem is, and to what extent they can control it. If that meets with your approval, I

will endeavour to invite the two of them to have luncheon with us this noon. You cannot have a sitting this afternoon, so it will afford an opportunity of talking with them at the luncheon.

THE CHAIRMAN: Thank you, very much. Please do that. We seem to be moving along pretty well. Is there anything else you want to bring up?

MR. BELYEA: Mr. Cooper, there is a roofing plant in the east end, which I think is a little beyond the city limits. Does that cause any problem?

MR. COOPER: Not that I have heard.

Our City Engineer, Mr. Skelling, has just come in. I do not know whether he has heard what has gone on here, or if he has heard of any complaints about the roofing plant. To me, certainly nothing from the roofing plant at the eastern city limits has come to my attention.

MR. SKELLING: No, there have been no complaints.

MR. BELYEA: Is it the London Roofing Company?

MR. COOPER: That name does not "ring a bell".

THE CHAIRMAN: Did you have complaints from there?

MR. BELYEA: No. I wanted to compare it with what we have heard elsewhere, as to whether or not

there was a problem there.

MR. COOPER: Certainly not in the last ten years.

MR. BELYEA: You have seen the plant when it was operating, and have not seen anything coming out of it?

MR. SKELLING: I never saw anything which would particularly draw it to my attention, so it could not be too severe.

THE CHAIRMAN: I was talking to a friend of mine who lives in London, and I told him the Committee was coming to London, and he said, "What for? We do not have any problem in London".

MR. COOPER: I would not say there was 100 per cent. agreement with that, Mr. Chairman, but I think we are relatively free as compared with many places. The person saying we have no problem -- it might have been just an idle guess here and there, but some of the criticisms have been bitter, and in some instances, justified.

The RobertsonIndustrial Craft is the one to which reference was made. The main complaint about that industry, which impressed itself on me, was concerning the sulphur water causing the effluent from the plant to flow through our city.

MR. BELYEA: Is sulphur in the water unusual in London?

MR. COOPER: No. It is very common. There used to be a well equipped with a small hydrant where anyone could go and drink sulphur water for medicinal purposes, if they wished. I think you will find that condition yet, if you look for it.

I know there was one in Windsor, where I was Deputy City Clerk before I came here, where they asked permission to drill on the street, and the water went into a catch-basin, and was completely swamping the city well, and they were told they either had to drill another well, or cap the well they had.

In the case of the Robertson Industrial Craft, that is more or less disregarded.

THE CHAIRMAN: It is raw stuff going in there?

MR. COOPER: I do not know that this pollution would have any harmful effects on fish life, and I do not tknow what the effect of the hydrogen sulfide in water is. I do not think there is any effect, other than the odour. We have investigated it from a health angle, and it is not a health menace, but is certainly a great nuisance, and particularly obnoxious when it comes in through this drain. In some cases, they put

tile around the house, and a floor drain, and in some cases, they use a wash tub, but we watch that, and wherever we find a wash tub, we make them disconnect it because it does become a health menace.

Footing tile is not a pollution problem, and we require them to be connected to the storm sewers, wherever storm sewers are available, but these fumes seep up into the footing tile and through all the connections into the floor drain, and then you have the serious problem, that is, the odour throughout the whole house, and at certain periods we have received bitter complaints from that area.

MR. THOMAS (Oshawa): Would it help if the effluent was drained into a storm sewer?

MR. COOPER: No, we would not want that. The cure is to have the Company drill another well, and there should be no problem drilling another well and putting the water back down.

That is the only satisfactory answer, as far as we are concerned.

MR. BELYEA: They could buy water from the city.

MR. COOPER: No, that would be too expensive.

MR. BELYEA: You have exceedingly good natural water.

MR. COOPER: Yes, we have very good natural water and the matter of expense to the industry would be prohibitive.

MR. THOMAS (Oshawa): Are the city mains in the vicinity?

MR. COOPER: There is city water going right by the door, I imagine, but they would use many thousand gallons of water for the cooling processes.

MR. ELLIOTT: Perhaps the sulphur water is better for the cooling processes than the ordinary water?

MR. MORNINGSTAR: Some industries would use that water over again, by the use of a circulating system.

THE CHAIRMAN: Well, if there is nothing further, we will adjourn this meeting.

MR. COOPER: We would like to invite the Committee to luncheon, at which will be members of the Air Pollution Committee of the city, the City Engineer, the Building Inspector, and one or two who have been present, and if His Worship is successful, the railway superintendents will be there, and perhaps we could have profitable discussion at noon-time.

THE CHAIRMAN: Then we will adjourn this meeting, to reassemble at the hotel at twelve o'clock.

- - - - -

---Whereupon at 11:30 o'clock a.m., the further proceedings of this Committee adjourned until twelve o'clock noon today, to reconvene in the Pickwick Room of the New London Hotel.

- - - - -

A F T E R N O O N S E S S I O N

London, Ontario,
Friday, May 11th, 1956,
12:00 o'clock noon.

- - - - -

P R O C E E D I N G S

at a

LUNCHEON, TENDERED TO THE COMMITTEE BY THE CITY OF LONDON, HELD IN THE PICKWICK ROOM, NEW LONDON HOTEL, LONDON, ONTARIO, FRIDAY, MAY 11TH, 1956, AT TWELVE O'CLOCK NOON.

- - - - -

His Worship Mayor Dennis, Toastmaster,
Presiding.

PRESENT:

(Members of the Select Committee):

Messrs. Cowling,

Brandon, Q.C.,

Morningstar,

Gordon,

Thomas (Oshawa).

Elliott.

(Officials and citizens of the city of London):

Alderman Parr, Chairman No. 2 Committee.

Alderman Peterson,	Chairman, Air Pollution Committee.
Mr. R. H. Cooper,	City Clerk, London.
Mr. Skelling,	City Engineer, London.
Mr. Roy Garrett,	Engineer, City of London.
Mr. Harry Shenk,	Treasurer, City of London.
Mr. MacBride,	Building Inspector, City of London.
Mr. Johnston,	Superintendent, Canadian Pacific Railway, London.
Mr. Warren,	Superintendent, Canadian National Railway, London.
Mr. Bishop,	Engineer for City's Heating, City of London.

- - - -

Mr. R. H. Cooper pronounced the invocation:

"For what we are about to receive, thank God.

Amen."

THE TOASTMASTER: I think it would be well at the outset to ask Mr. Cowling, the Chairman of the Select Committee of the Ontario Legislature to introduce the members of the Committee.

MR. COWLING: On my right, is Mr. Brandon, Q.C., the member for York West; Mr. George Gordon, the member for Brantford; Mr. Morningstar, the member for Welland; Mr. Thomas (Oshawa), the member for Oshawa , and Mr. Elliott, the member for Hamilton East. My name is Cowling, and I represent High Park riding, and have

the honour of being the Chairman of this Committee.

We have with us Mr. Harry Belyea, Engineer and the Committee's technical advisor; Dr. Fred Evis, the Secretary, and our official reporter, who will be taking down the notes.

THE TOASTMASTER: With your permission, I will introduce those who are gathered here today from the city of London.

The first is Alderman Parr, Chairman of what we call our "No. 2 Committee"; Alderman Peterson, Chairman of the Air Pollution Committee; Mr. Cooper, the City Clerk, whom you have already met; Mr. Skelling, the City Engineer; Mr. Roy Garrett, the engineer, and, for a good many years now, acting in a consulting capacity; Mr. Harry Shenk, the man who pays the bills when we convince him they should be paid; Mr. MacBride, the Building Inspector; Mr. Johnston, the superintendent of the Canadian Pacific Railway. I may say that I had a little difficulty in securing the attendance of Mr. Johnston, as I understood at first that he was getting a haircut, and then had to have a medical examination, but between the barber and the doctors, we chased him down and he is here, all in one piece.

Then Mr. Warren, the superintendent of the Canadian National Railway; Mr. Bishop, the engineer

for city heating, and a member of our Advisory Committee on Air Pollution.

I think now we all know everyone, so the meeting is open and aboveboard .

I regret to say, Mr. Chairman and gentlemen, that I have a prior appointment which I will have to attend, and with your permission, I will retire, and ask Alderman Peterson to "take over" after the luncheon.

---Whereupon the gavel was relinquished by His Worship Mayor Dennis, and assumed by Alderman Peterson, Chairman of the London Air Pollution Committee.

---Luncheon.

ALDERMAN PETERSON: First of all, I want to reiterate everything His Worship the Mayor said. He left, not because he wanted to, but because he had another matter to attend to, but he welcomes each one of you at this "get together".

Mr. Cowling and this Committee have seen fit to come from all over Ontario to study our problems, which indicates the tremendous importance placed by our senior government upon air pollution, and it behooves us to commend a government which has the foresight to make those observations.

To give you a brief run-down, may I say that here in London we have an Air Pollution Committee, which

was fortunate in having representatives from industry's technical men, and our otwn technical men in the City Hall, and two men whom we do not know anything about, Alderman Parr and myself, who have had a great deal to do with complaints from our citizens.

We have been fortunate, in some instances, to sit down -- and may I say our principle has been pretty much along the line that we believe in education rather than legislation.

We have air pollution by-laws on the books, but it is the type of thing we hope we never will have to use. I will give you an instance in town, where we received a tremendous number of complaints -- and justifiably so -- but for a long while, though asked individually of members of our administration, not too much headway was made. Then our engineering department took a run down to the violators, and brought them to the City Hall, and the management of that company was invited to that meeting. The situation was presented at that time, and it seems incredible, but our town has completely changed, from the point where they thought they were being unduly criticized for their violations, and management got together with our heating director, and I do not think we have received a single complaint since.

Today, of course, the fact that you are here proves we have many problems in the city. I think we are fortunate in London in that regard -- not that we do not have problems, but we have co-operated with management, and we feel we can adequately work with management, and make them aware of this acture problem.

We welcome Mr. Johnston and Mr. Warren from our two railways, not because they are the only offenders in town, but because the two combined are the largest employers in this city. There are some people who like to think you create a problem, and I am sure you are both glad to meet these gentlemen of the Air Pollution Committee.

I have nothing more to say. I hope each one of you will feel free to enter into the discussions, and if it meets with your approval, I will now call upon Mr. Cowling, the Chairman of the Select Committee, to give us a run-down of his work.

MR. COWLING: Thank you, Alderman Peterson. For the benefit of those whom we did not meet this morning, may I say that this Committee is composed of representatives of all Parties in the House -- we are an all-Party Committee-- so we are getting a very unbiased look at the whole picture.

We are very pleased to have the railroad people

with us, because, quite frankly, in our studies to date, in Ontario, and in the States, we seem to be confronted with the problem of the railways. Perhaps we can get some ideas here today which will be helpful.

We had some fine ladies before us this morning, and it may be that you have heard from them in the past.

As Alderman Peterson said, we would like to have this in the way of an informal discussion, and I presume most of the questions will be addressed to the two superintendents.

I could perhaps open the discussion by asking a question of the railway people, that is, if they feel the smoke problem can be handled locally? Is it a matter of equipment, or a matter of perhaps a little carelessness on the part of the operators of the coal-burning locomotives.

MR. COOPER: To give Mr. Warren and Mr. Johnston a little more to bite on, may I say that at the meeting this morning, there were three groups represented; one had to do with the private industries, that is, complaints generated by private industry in the township. The other two groups were people who complained, first, about Mr. Johnston's roundhouse, and, secondly, the one operated under Mr. Warren's

jurisdiction, and they said they have complained over a long period, but they have not been able to see much improvement except for very short periods, and, by and large, the problem of air pollution and smoke, and coal dust in their neighbourhood, is a very serious one. In fact, one lady brought a blouse down to illustrate how the soot came out of the air, and spotted it, and the spots could not be removed until the material had been processed through so many washings, and she said there were some days when you could almost taste the smoke and soot in the air, and on some occasions they were not able to put their children out, because they felt the throats of the children were being damaged and affected by this heavy pollution of the air.

I do not think the complaints were any more vociferous against the Canadian Pacific than they were against the Canadian National.

ALDERMAN PETERSON: Some of the complaints were against the Canadian National Railway as well.

May I say that I had a little chat with Mr. Belyea, and he gave us a little talk on the technical aspects, and would you mind if he gave us the local situation in regard to the railroads. I am sure that would be of interest to all of us.

MR. BELYEA: What had you in mind?

ALDERMAN PETERSON: You were discussing it before luncheon.

MR. BELYEA: With regard to diesels, and so on?

ALDERMAN PETERSON: Yes, and combustion. One of our problems is that temporarily a problem seems to be solved, and then it gets back to the same conditions again.

MR. BELYEA: On the question of maintenance, I was discussing what happened in the dieselization programme at a number of places in the States, with the idea that a good many people there had the idea that when the diesels came, everything would be "hunky-dory".

With diesels, there are three or four elements of combustion which have to be watched; there could be carbon monoxide, which rarely causes a problem, and there is the oxide of nitrogen, which is toxic, but again does not cause much problem. Then there can be oil fumes which can be a problem, and then there are the aldehydes which can be a very severe problem.

In an engine which is in good condition and well maintained, and the controls are adjusted and properly set, the aldehydesand the oxide of nitrogen present no perceptible problem at all. One can get

close to them without any irritation at all, but if the engines are getting old, or if their condition is not good, these things can be as much as ten times higher, and are severe and irritating, nauseating, and sometimes sickening conditions can arise.

In a railway yard, with perhaps a dozen or more diesels, a large amount of this pollution drifts across onto people in the neighbourhood.

In some places we have visited, there was no pollution at all. In Philadelphia, they claim there were no complaints against diesels, but in Philadelphia, they have had an air-pollution department for thirty or forty years, composed of men who are well trained, and well organized, and I presume that the organization is carried on by both sides, and the railways say they have kept the maintenance up. But I have heard of very few instances where that situation exists, and there have been some very severe complaints.

We are trying to get a standard for the diesels, so that when they come in, the maintenance will not be allowed to slip.

DOCTOR EVIS (Secretary): In Philadelphia, they hired a man who had forty-nine years experience with the railway, and he could get up in an engine,

and show them how to do it. When a man knows his job, and goes around, he gets good co-operation.

MR. BELYEA: I think that is a very excellent point. They recognize the problem, and they have for years, and the railways, for the most part, have men who have been gathered together, and who attend the various meetings of such associations as the Air Pollution Control Association, and receive the answers as to how to control the smoke.

ALDERMAN PETERSON: Thank you very much. I might mention Mr. Bishop is here, and we would like to hear a few words from him.

MR. BISHOP: Alderman Peterson and gentlemen; I think the heating engineers are very interested in air pollution in London. We had a panel discussion on that subject, and I think the whole thing is that you have to get at the very bottom, starting with the engineer himself, forgetting about management, but speak to the engineer, and have somebody do that who can talk his own language, and in that way I am sure you will stop a great deal of air pollution.

ALDERMAN PETERSON: I might mention this; those of you who represent industry, such as the railways, can be of real help to our Committee. I think the Committee from Toronto should know that we have been

bandying about with the idea of whether or not we should hire a smoke inspector. I, for one, say "No". I think industry can look after that problem better than those of us in the City Council. We will not hire a smoke inspector to go around and tell you how you are breaking the law, nor bring some man into the police court and fining him the magnificent sum of $50.00. We feel it is better for industry to help us with their problems, as they have been doing.

Those who represent industry can be of real help to us, and they have asked the City Council, and the city Administration, "What would you like us to do?".

I would like to hear from Mr. Warren or Mr. Johnston.

MR. JOHNSTON: Mr. Chairman, we have been missing something, just as the one who strolled into Sinbad's tent at three o'clock in the morning, and upon being questioned, said, "Lady, I did not come here to talk."

I am delighted to have the opportunity of coming here, and I am deeply indebted to His Worship the Mayor for having invited me to this luncheon, and I wish to tender my sincere thanks also to Mr. Cooper, the City Clerk.

If you, at any time, have had any doubt about

Mr. Warren and I being able to get along together, may I say that we use these little note books for making notes, and I am carrying one of the Canadian National Railway note books, in which I am making my own notes.

It is very interesting to me to have this meeting with you gentlemen, and to realize that you are all interested in smoke abatement. I do not know of anybody, nor any group of men, who are more sympathetic about the lessening of smoke and noise nuisances than we are, from our management right down, and I am satisfied that Mr. Warren is in the same position.

There has been some misunderstanding about diesels. We have had diesels in Windsor for four years now, and I do not recall of one complaint we have had owing to diesel operation there, and that is in a location where there are many homes between our yard and the waterfront, where they are loading cars onto the ferries, and there has been no reaction whatever.

In London, I know there has been some complaint; in fact, I imagine that the lady -- whether she is young or old, I am not sure -- is the one to whom I have spoken practically around the clock, because she

has called me at many different times. There has not been one time I have been notified, when the matter has not been taken up with the supervisor at Quebec Street, as we call our roundhouse, and I am in entire sympathy with Mr. Bishop as to where you must go to get at the bottom of things, that is, to the men who are running the engines.

It is possible, of course, to keep the smoke nuisance at a minimum on steam engines, by keeping the blowers on, and keeping the fire boxes open. That proves to be of great assistance.

I know on our railway -- and again, I believe it is the same with Mr. Warren -- that a local official, if he is out and sees an engine emitting what we call "too black smoke", certainly talks to the firemen immediately.

We have diesels in London, and I have had no complaint whatever at the time the diesels are operating, and that is something we always like to see.

Quite frankly, I have not had difficulty myself, and I know this condition continues for weeks on end. I have not had a call for at least four months.

We have several diesels in operation in our yard here and when anybody calls, we try to get the engine number, so that we can go right to that fellow

and find out just what he was doing, and we take certain measures with him, so that generally he does not do it again. Of course, if we "raise the mischief" with anybody, I think you will agree the matter has been cleaned up for awhile.

I think, too, that what will help this situation is the way both our companies are dieselizing; they both have heavy dieselization programmes, and while I am not in a position to say -- I just do not know -- but I think I know well enough to say that in about two years or so, the yard will be completely dieselized, and there will be no steam engines working in the yard here at all. The diesels have been used on our yard operations, and as the months go by, there will be more diesels added to the through train pools, and I think there will be great improvement noticed at that time.

There is another thing in my mind. What is "black smoke"? The Board of Transport Commissioners have a chart which prescribes that a certain amount of smoke may be emitted within a period of five minutes, and the presumption is that railways and industries are charged if going beyond that limit, but, as a matter of fact, they are not. We do know that smoke is brought about generally when a fire is being built,

and it may take a number of minutes for the heavy smoke to dissipate at that time, but within a very few minutes it is all gone. I sometimes think the people just do not appreciate that there is always a certain amount of smoke which must be expected.

However, as I have said before, I am in sympathy with Mr. Bishop, in charge of the city heating here, that while it is quite proper to consult the officer in charge, the actual elimination of smoke starts with the man who is making it.

I hope I have added something to the discussion.

ALDERMAN PETERSON: Thank you. Indeed you have, Mr. Johnston. I think that is exactly what we wanted. I think you mentioned you have had no complaint for four months. I am sure Mr. MacBride will be glad to hear that. He is the one to whom we forward our complaints.

MR. MacBRIDE: These complaints seem to run in cycles; at times, we will have complaints about some industrial firm and in the same week will have one concerning the railways.

When we receive a complaint, we have to explain to the complainant that we cannot reasonably pin anything on the offender, until we have an actual

number. That means, for instance, that a lady will call up and say that such-and-such a firm is spoiling her washing, and if I have not an inspector in the office at the time -- or even if I have -- I try to get him out immediately, but usually by the time he gets there, the smoking period is gone, and all I can do is inform the offender we have the complaint, but we could not tie it down because when we go out there, the industry might not have had any smoke for a couple of hours, and yet the householders are annoyed.

On one occasion, I had a man going out at six o'clock in the morning, because they said that was when the smoke was the worst, and again at night at nine o'clock, when we have daylight at that hour, to put a check on the smoke, but we do not feel, unless we can definitely tie it down from, say, ten o'clock in the morning, until an hour later, that we can estimate the amount of smoke. On one occasion, we tested through the Ringelmann Chart, one hour later, and we could say to a man, "We tested through the Ringelmann Chart, and we found you were emitting No. 2 smoke for 15 minutes". One time in particular, I sat during an entire noonhour. I did not have the chart with me, but I sat there from twelve to one, and this

particular stack never stopped sending out smoke, much more dense than a No. 2.

We have complaints from people up on Salisbury Street, perhaps not about Mr. Johnston, but his department, and we try to pin this down to a certain chimney in the roundhouse.

When Mr. Johnston spoke of the diesels, does that mean there will be no smoke coming from the roundhouse?

MR. JOHNSTON: No. I said that when I mentioned I had not heard anything for four months, I meant personal calls at home. I know that Mr. MacBride has taken it up with us both verbally and by letter, but the smoke to which he referred is coming from smoke stacks at the roundhouse, but it is mostly from engines which are being lit up in the first place, and that, I think, can be gradually overcome. As we get the diesels there, it means fewer engines in the roundhouse.

MR. COOPER: If you knew which stack it was coming from, you could pinpoint the man who fired that engine?

MR. JOHNSTON: Yes. Where I had a little trouble one day with a lady was that I was trying to get her off the telephone, because she had the engine

number, and if she would have let us, we could have gone out and pinpointed it. If we have the number, when we are told it is coming out of a smoke stack, it would not take long to find out which one it is, and if anyone calls up and tells us it is a smoke stack down there, we can check it up immediately.

DOCTOR EVIS (Secretary): I would like to ask Mr. Johnston or Mr. Warren, would it not be possible for the foreman of the roundhouse, or whoever is in charge, to act as a smoke inspector? Apparently, after a complaint is lodged, the smoke abates for a certain time. Why is it necessary for a citizen to complain about the smoke? Could not the foreman in charge of the roundhouse take a look around, and if he saw chimney No. 5 smoking, he could get in there, and do something about it?

MR. JOHNSTON: That would be an ideal situation.

DOCTOR EVIS (Secretary): Could you not enforce it?

MR. JOHNSTON: We have foremen around the clock. We have a locomotive foreman, and assistants working on each shift, and they are made very much aware of the importance of keeping the smoke nuisance down.

That is only in the engine house. While they

have something to do with the smoke nuisance in the yard; it is not their responsibility over a fireman who is firing the engine or the engineer who is in charge of the engine which is probably a mile from the roundhouse, and they do not know anything about it, but they are responsible for the smoke at the roundhouse, and can do a great deal to eliminate it, and they are the people we are working on.

DOCTOR EVIS (Secretary): If there is a justifiable complaint at the roundhouse, do you do anything to discipline the foreman, as well as the fireman who caused the complaint?

MR. JOHNSTON: No, I cannot say they are actually disciplined, but it is taken up very strenuously with them. In every case, they are reprimanded, but there is no disciplinary action taken. That is the only place we are working all the time with the foreman. We have safety meetings we hold down there every month, and at all safety meetings the matter of smoke nuisance and noise nuisance is discussed. They are just such meetings as this, and when I go back to the office, we will go out again and put out bulletins, and go through this again all the way, in the hope that something may be improved.

ALDERMAN PETERSON: Mr. Warren, we would be

glad to hear from you.

MR. WARREN: Alderman Peterson, Mr. Chairman and gentlemen; the general situation as explained by Mr. Johnston is similar in all respects to our railroad. We do not have too many complaints. Actually speaking, we have very few. Quite often they come directly to me, and, similar to the other railroad, when we get these complaints, we can pinpoint where they come from, and take it up immediately with the parties concerned.

If it is an old engine, it is not a difficult matter for a railroad man to determine when there is a smoke nuisance and there is a certain tolerance allowed, but we must remember too, that some of the individuals who are making these complaints are anything but tolerant. I must say I get plenty of abuse.

That is rather peculiar, because our through trains in both directions, coming into London, drift through London without working the steam at all. I think the ones giving the smoke are the yard locomotives, and the station locomotives, but certainly there is no smoke emitted from the through traffic, with the heavy power.

There are occasions, as Mr. Johnston has explained, when lighting up an engine in the roundhouse,

as they usually use some type of packing, and there is an oil content in that, and it will be dissipated out through the air before they have the steam up.

We are not working our engines through London.

MR. BELYEA: I suppose the suburbs get it.

MR. WARREN: Yes, I would expect that, but even there I would not know what would happen.

THE CHAIRMAN: Can you hazard a guess as to when you will be completely dieselized on the Canadian National Railway?

MR. WARREN: No doubt we will be entirely dieselized on the system within five years. We are adding additional diesel power in this division, almost daily. I am speaking of the London division, not London city.

Certainly, within five years, which is a broad figure, and I think it is somewhat similar to the opinion expressed by Mr. Johnston. We are not going to repair any steam engines. That is the reason we are getting so many diesel units.

THE CHAIRMAN: Do you think the fact, as we have heard other railway men make the statement, that the problem can be solved without complete dieselization? Is it right to assume that some of the steam engines are not getting the right type of maintenance, because

they are going to the scrap pile?

MR. WARREN: No, that is not a fact at all. The density of the smoke is in the hands of the fireman, because he is the man who is handling the coal, or, if it is a stoker, he is manipulating the stoker.

If we receive a complaint, we "go to town" on it immediately, but you will realize we cannot follow up every individual case.

THE CHAIRMAN: And, of course, it is a fact that the railways do operate under the jurisdiction of the Federal Government, by order dated 1908, and there has not been any change made since that time.

MR. WARREN: We do not take advantage of that. If anybody makes a legitimate complaint, one which we can run down, we have the road foreman of engines, and the master mechanic, and Mr. Hughes and Mr. Roberts, for following up the complaint immediately.

It is the same with Mr. Elwood, our Assistant Foreman.

THE CHAIRMAN: There has been a reduction of complaints with the coming in of the diesel power?

MR. WARREN: Yes.

THE CHAIRMAN: When we were in Philadelphia a couple of weeks ago, we spoke to the air pollution people, and they advised us they formerly received

forty or fifty complaints a day, but now that they are becoming dieselized in greater Philadelphia, the complaints are reduced to two or three a month.

MR. WARREN: Yes, we have three diesel engines working in our London East yards, and the others are steam engines, but we do not get a complaint from that area. We get it from people out on Burgess Street and in that general direction.

MR. COOPER: Is that from blowing off the boilers?

MR. WARREN: No, we do not do that. We never attempt that until we get out in the country.

MR. ELLIOTT: The railways both agree they will be completely dieselized in three or four or five years. Do they feel that then the problem will be answered? Perhaps the exhausts from the diesel engines is more injurious to health than the black smoke can possibly be. Do you think you are meeting the situation, as far as health is concerned, or just doing away with black smoke?

MR. WARREN: There must be an improved situation, or it would not be adopted all over the United States. Their opinion indicates there cannot be very many obnoxious fumes.

MR. ELLIOTT: You definitely feel that the

diesels are not contributing to the menace to public health, that they will do away with the black smoke, and the exhaust is no more harmful, or probably not as harmful, as the old black smoke?

MR. WARREN: I do not know that the "old black smoke" was ever harmful. It was obnoxious, of course.

I have never seen in any trade magazine -- and that is the only source from which I can get information -- that fumes from diesels are injurious. If they were, they have had some years experience with them on the United States railroads, and I have never seen anything where it is claimed that diesel fumes were injurious to the operators of those engines.

MR. ELLIOTT: I do not say that, either. In Los Angeles, the Authority claimed -- but it is disputed in other places -- that 50 per cent. of the smoke trouble was from diesels and motor cars alone.

MR. WARREN: I cannot deny that, because I am not a scientist.

MR. COOPER: Just follow a diesel bus, and you can easily understand that.

MR. JOHNSTON: As far as the railways are concerned; take Windsor, Chatham and London; we have had diesels in those cities for upwards of five years,

and I do not recall one complaint against a diesel engine here in London, or any other place, as a matter of fact. Whether it is injurious, as you suggest, I do not know, but as regards complaints from diesels, I have never had any.

MR. ELLIOTT: I am only speaking from what we have heard in Los Angeles, and by following the diesels up the hill. As far as public complaints, I have heard nothing. I am thinking of the future.

The Medical Officer of Health at Brantford says it has an odour that may be harmful.

ALDERMAN PETERSON: Mr. Johnston raised the point that perhaps we are at loggerheads, as to what "black smoke" is. In the city of London, we have been using exclusively the Ringelmann Chart.

THE CHAIRMAN: That is easy. If it is dirty enough for people to complain, it is dirty. The Ringelmann Chart is the only satisfactory thing to date for measuring smoke. There is nothing else. If it is black smoke, it is a nuisance. This "gal" who was before us this morning with the washing, had the evidence.

MR. MacBRIDE: I find that they use the Ringelmann Chart, because it is an easier method of determining the density of smoke, that is, the

Ringelmann Chart or -- is there not another instrument?

ALDERMAN PETERSON: We have both.

MR. MacBRIDE: Yes, but we use the Chart.

THE CHAIRMAN: It is more simple.

MR. MacBRIDE: And can be explained to a person, where if we wish to use this other instrument, we have to get the glasses in apposition.

ALDERMAN PETERSON: The people today want to impose obligations on our various governments. I do not think that industry should be ignored. I think, if it is a business problem, leave it with business, and they will solve it.

Is there anything we can say specifically? I do not think you will find any place, men who have placed their cards on the table as the gentlemen here have today.

MR. THOMAS (Oshawa): This is a problem largely created by the human element. Mr. Johnston said if they had a complaint concerning an engine, they went in, and would get the offender and give him a good talking to. If he is a repeater, what happens then?

MR. WARREN: Well, he will not repeat. If he is a repeater, he will be taken care of.

MR. THOMAS (Oshawa): That is the only way you

can accomplish anything. To talk to some offenders is just water over their backs, and they soon carry on the same offence again.

THE CHAIRMAN: I speak with a little bit of knowledge, because I happen to have the Lambton roundhouse in my riding, and I do not think the trouble comes from the engines in transit. I think where we get the complaints is from the roundhouse, where they are lit up to prepare for their trips. The through trains provide no problem.

At home, they have the stacks numbered, and somebody telephones in, and says, "No. 3 is sending out smoke".

I have been on the job about nine years, and I am still getting as many telephone calls as when I first went in to the political picture. I can sympathize with the railroads where it is a daily and even hourly problem, and where you "squelch" one, there is another breaks out almost immediately. If the employees are a little careless, you have a big problem at once. They are in the picture, too. It is something which requires a great deal of study, and I feel the knowledge, and technical and scientific information the Committee is acquiring is of great assistance to us. I think we can be helpful to the

railroads, and the I know the railroads will be helpful to us.

MR. BELYEA: We have had people say they could light up a locomotive with, theoretically, no smoke, but practically, that is not possible. There are various types of igniters, and so on, which can be used.

Some of the operators have a problem in that they cannot see their stacks, and if the railway is not going to be dieselized within a year or two, one thing they could do is to instal an electric eye, which would give some alarm, so they could take immediate action, without having to wait for telephone calls.

ALDERMAN PETERSON: Mr. Gordon, have you anything to contribute to our discussion?

THE CHAIRMAN: Mr. Gordon talked himself out yesterday.

MR. GORDON: We had a meeting something similar to what was held this morning, but we had many, many more citizens than you had here, complaining, but ours was not from the roundhouse of the railway, but was from industry. The problem is to get industry to co-operate, and we find in our tours that what is being done in large centres, such as Chicago and Detroit, has all been done by getting management to co-operate, and we have seen difficult problems which

have been solved by this method of co-operation.

In our city, it is the plastic firm which is the greatest offender, and people are complaining about the fumes and odours.

We had one complaint, where they were producing something which made a very vile odour, and finally they had to do something about it, and they showed us what they were doing, that is, drawing off the odours which were going into people's homes, and burning it in a furnace. They took the stuff and threw it into the furnace, and let it go into the air, and it created a very vile smell.

When we were in Detroit, we went to the Cadillac Company, and they spent $3,000 every three months cleaning the dust off their roof, and they installed dust-collecting equipment, costing half a million dollars, and the Committee went up on the roof, and saw there was not a particle of dirt, but it was as clean as it could be, and they were saving $3,000 every three months.

From that, you can imagine what was going on to the people in the district, and what it meant to them to have it collected. We found there is not an air pollution problem which can be corrected without costing money. In cities like London or Brantford, what should

be done is to have a competent engineer go over the plant of any new factory which is going to locate there, to see that they have the proper combustion equipment in their plant, so when the plant is built, there will be no air pollution problem, because after a plant is built, it costs a great deal more money to correct it than it does to instal it in the first place.

It did not come out yesterday in Brantford, but one of our main smoke offenders is the Federal Post Office. They have a very old plant there, and the reason nothing was said was because they are going to build a new one, but they will still use soft coal, and our engineer will be careful to see that the combustion equipment will be adequate to take care of the situation, so there will be no more smoke from that building.

MR. GARRETT: When you speak of an "engineer", are you referring to the municipal engineer, or an industrial engineer?

MR. GORDON: It would be our City Engineer, in conjunction with some stationary and power engineers.

MR. GARRETT: Does that not put the responsibility on the city, if it does not operate properly?

MR. GORDON: They check that when they issue the building permit. In Chicago, they have competent engineers who go over the plant, and if the plant is not built to their specifications, there is real trouble, because they have set up a standard, and the plant must be built to that standard.

MR. COOPER: It would be actually a power engineer, a man skilled, like our friend who discussed our power plant at the Dr. John Dearness Home, a man skilled in combustion equipment.

MR. GORDON: Chicago and Detroit are large enough to engage a man of that calibre.

MR. BELYEA: There are very few jurisdictions which take any responsibility upon themselves, or work closely with the department solicitor, and while we look over the plant, we make it known if the thing does not operate, they must make it right.

MR. ELLIOTT: But an engineer will never admit that he made a mistake.

ALDERMAN PETERSON: Mr. Elliott, have you anything to add?

MR. ELLIOTT: I have been in municipal politics since 1935, and we have a big steel plant in Hamilton -- the largest in Canada -- and we get no complaints regarding the steel plant nor the railways.

The Toronto, Hamilton and Buffalo railway is completely dieselized now, and the smoke is eliminated completely.

Does Hamilton city come under your jurisdiction, Mr. Warren?

MR. WARREN: Yes.

MR. ELLIOTT: They have gone to diesels probably 100 per cent. The steel company formerly had twelve steam engines -- that is, coal-burning engines -- now they have none.

Where I got the idea regarding the gas from the diesels was because the employees in the steel company felt they had better health with the old black smoke, than with the diesels. There are a number of employees who figure that the diesel fumes are hard on the health, and they do not like it. How serious it is, I do not know. That is where I secured my information, speaking about the gas from the diesel engines. There might be a bit of a problem there to further improve the diesels.

Simply because we have diesels,we should not say that we have "licked" the whole problem, when the gas could still be deadly, without our knowing it. They have to go into the matter, and try to "lick" it.

DOCTOR EVIS (Secretary): You will have the

Oxy-Catalysts pretty soon.

MR. ELLIOTT: I am not sure that is the answer.

MR. MORNINGSTAR: Alderman Peterson and gentlemen; I think the situation has been well covered here. I think it is very nice to get together and exchange points of view.

I was pleased to hear from His Worship the Mayor at the meeting this morning, when he said he received the best co-operation from industry and the two railway companies, and that they have endeavoured to eliminate the smoke, as much as possible.

As the members of our Committee know, at every place we have visited, it all boils down to personnel. I believe in co-operation. I was in the municipal field for a number of years, and we are in a highly-industrialized part of the province, and we seem to get along very well co-operatively, and that is a nice way to work it out.

This Committee was pleased that the municipality itself was going to try to solve this problem of monoxide gases and air pollution, and our visit to Philadelphia the other day was the closest we have seen yet of anybody trying to cut down the monoxide with an Oxy-Catalyst. We all hope the firm, which is a private firm, will be successful with its invention.

I do not know that there is anything I can add. We are pleased to enjoy your hospitality in the city of London, it has been a very, very pleasant day here. We are picking up knowledge all the time.

This is a very, very big problem, and I think even the hon. Prime Minister did not realize it was such a large problem until we got into it. In fact, we may have to visit the Ruhr Valley, Japan, and --

MR. ELLIOTT: And Moscow.

MR. MORNINGSTAR: Yes, perhaps Moscow. I do not know where we will end up.

I wish to thank you again very much for your hospitality, and I hope you will express our appreciation to His Worship the Mayor, and I do hope that you have profited from our stay here.

DOCTOR EVIS (Secretary): I think, in regard to the matter of using hydrocarbons as fuel, that there is a considerable amount of evidence from Los Angeles, Chicago, Philadelphia and elsewhere, to indicate that the unburned hydrocarbons going out of the exhaust, and also the partially-burned hydrocarbons are at least a major cause of lung cancer, and probably other diseases, and I think we all hope that the Oxy-Catalyst exhaust will work. I feel that the combustion from the diesel and gasoline-burning motors

constitutes a health hazard. We have our automobile registrations in the province going up about 100,000 per year, and we are getting very close to the concentration of motor cars they had in Los Angeles back in 1942 and 1943, when they first began to have eye irritation and sore throats. They commenced getting that effect when they had 25 cars per thousand of population, and in Ontario today, we are running close to 385 cars per thousand people, and as that is true, we might have to have a few more engines to get the same amount of concentration.

I think we are definitely coming to the time when we will have to be prepared for the health effects they are experiencing in Los Angeles and elsewhere.

In Sarnia, we had a complaint from the Medical Officer of Health that people were complaining about their eyes watering, and other effects from hydrocarbons.

MR. GARRETT: How does the city of London compare with the other cities?

THE CHAIRMAN: I am glad you asked that question. I think I speak for the Committee when I say very definitely that London is one of the better cities for its size, air-pollutionwise, and I think you have the best record of any of the cities, certainly any of the Ontario towns and cities we have visited.

Your Mayor and Council must have done a very commendable job of work, and they certainly are to be commended.

MR. GARRETT: A number of these complaints seem to be more in opposition than a reality.

MR. MacBRIDE: They are a reality, as far as we are concerned.

MR. THOMAS (Oshawa): There is one thing I might add in that respect. People come along and complain, and sometimes the complaints are inspired, but when a lady comes and said she was going to leave her house for two months, and had some friends coming from Nova Scotia, one of whom was going to take a course in London, and would like to rent the house, and although she warned them distinctly as to the smoke problem, she was told they thought they could put up with it. They came up here and took the house, but they got out in a very short time. Of course, the lady who was speaking rebated the rent, but I think that is something you cannot overlook.

ALDERMAN PETERSON: We are certainly glad to have you here. The fact that you have seen fit to be here is a help. I do not think we should pat each other on the back. We do have a problem here, and if we attempt to minimize it, we are beclouding

the issue, and, it seems to me, are simply fooling ourselves.

We are fortunate in London in having very co-operative personnel amongst the top executives.

May I assure you of this, Mr. Cowling and gentlemen, that if you have any recommendations to make, I am sure the City Council in the city of London will co-operate with you to the limit, and I am sure that industry will also co-operate.

I am sure we will have this problem with us 100 years from now, but I can assure you we will do everything we can to progressively lessen it.

Thank you very much for coming here.

- - - - - -

---Whereupon the further proceedings of this Committee adjourned at 2:23 o'clock p.m., sine die.

- - - - - -

"Air Pollution Committee,
Ontario Legislature,
Toronto, Ontario.

Dear Sir:

Thank you for your courteous treatment of my remarks re the C.P.R. roundhouse in London.

A clipping from Saturday's (May 12) London Free Press is enclosed:

'DIESELIZING OF RAILWAYS TO END SMOKE NUISANCE

London can look forward to the end of the railway smoke nuisance in the next two to five years, the superintendents of the CPR and CNR London divisions said yesterday before a legislative committee on air pollution and members of the city council.

Both companies are going to diesels before that time -- the CPR before 1958.

The railwaymen met with the committee and members of city council for lunch after a delegation of angry housewives from Rathmine

Street appeared before the committee in the morning waving soot-stained laundry and blaming railway roundhouses and switching engines.

J. O. Johnson, superintendent of the CPR and C. I. Warren, his CNR counterpart, said they were aware of the complaints and are trying to correct the situation.

They called upon citizens to get the number on the offending engine or to locate the offending roundhouse stack and phone immediately so that the fireman can be told at once.....'

My comments are as follows:

1. The men in the roundhouse (two I spoke to recently) do not believe that complete dieselization will come for years. They were unconcerned.

2. What are we supposed to do in the intervening years -- because the smoke problem is worse today than it was two years ago when they had fewer diesels.

3. As far as the C.P.R. is concerned, Mr. Johnson's suggestion about getting the engine number or the stack number is extremely misleading. Not four days ago, with the possible exception

of one or two, every single stack at the roundhouse was belching forth dense black smoke at the same time.

When I returned from church this early afternoon, a dense pall hung over the area just west of the roundhouse, where three locomotives were all emitting large quantities of smoke.

4. To repeat, when I toured the roundhouse last Sunday (a week ago) almost every spot was occupied by a steam engine, most of which engineers had fires on. There are rarely any diesels occupying space in the roundhouse and the only ones I've ever seen are the few shunters (one at a time) in use in the yard, a dayliner coach (diesel-powered) and a small diesel owned by a rock-crushing plant in the Woodstock area. I tour the roundhouse often because my youngsters like to see the engines.

To me, the replies of the railway superintendents are entirely unsatisfactory.

Yours truly,

(signed) 'Arthur Bradford'".

ONTARIO

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION, IN ONTARIO.

Mr. A. H. Cowling, Chairman,
Presiding.

Dr. F. A. Evis, Secretary.

- - - - -

VOLUME XXV

Tuesday, June 12, 1956.

Pittsburgh, Pa.

- - - - -

R. C. Sturgeon,
Official Reporter,
Parliament Buildings,
Toronto, Ontario.

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE, TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION IN ONTARIO.

Mr. A. H. Cowling, Chairman,
Presiding.

Dr. Frederick Evis, Secretary.

- - - -

INDEX OF PROCEEDINGS FOR TWENTY-FIFTH DAY

TUESDAY, JUNE 12TH, 1956.

- - - -

TWENTY-FIFTH DAY

Pittsburgh, Pa.,
Tuesday, June 12th, 1956,
9:30 o'clock, a.m.

- - - -

The further proceedings of this Committee reconvened pursuant to adjournment.

Mr. A. H. Cowling, Chairman,
Presiding.

PRESENT:

Messrs. Elliott,

Murdoch,

Morningstar,

Gordon,

Thomas (Oshawa),

Hon. Mr. Kelly,

Dr. F. A. Evis, Secretary.

- - - - -

APPEARANCES:

Mr. Harry Belyea,	Hygiene Engineer, Ontario Department of Health.
Mr. Harry C. Ballman,	Executive Secretary, Air Pollution Control Association.

Dr. H. H. Schenk,	Industrial Hygiene Foundation.
Dr. Axel Peterson,	Head, Dept. of Instrumentation, Mellon Institute of Ind.Research
General Matthew Ridgway,	Chairman of the Board, Mellon Institute.
Dr. W. A. Hamor,	Director of Research, Mellon Institute.
Prof."Ted" Hatch,	Industrial Health Engineering,University of Pittsburgh.
Mr. Wesley Hemeon,	Director, Hemeon Associates.
Prof. Sumner B. Ely,	Superintendent, Bureau Smoke Prevention.
Mr. Gilbert Arnold,	
Mr. Thos. G. Wurts,	Director, Bureau of Smoke.

- - - - -

THE CHAIRMAN: You have the meeting, Mr. Ballman, and I will ask you to lead off, and give us an idea of what the programme will be.

HARRY C. BALLMAN,

Executive Secretary, Air Pollution Control Association (Pittsburgh), appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Will you just proceed in your own way, Mr.

Ballman?

A. Gentlemen, we have a very tight programme today, and as we have a great deal of work to do, I can assure you that we are going to "work the daylights" out of you.

It is now nine-thirty, and I want to discuss some things quickly with you, and sort of give you the over-all picture, and if we do not follow some prepared programme, we will be going all over the cow pasture, and probably get into a little manure, and not get much done.

Doctor H. H. Schenk, from the Industrial Hygiene Foundation, will join us a little later. He has to do with the tests for air pollution in the Industrial Hygiene Foundation, which is made up of some companies, kind of a closed corporation, if you please, although they will accept new companies, and whenever any company has an air-pollution problem, Doctor Schenk heads up the tests.

Later this afternoon, "Wes" Hemeon will join us. He is the Consultant on air pollution, and is an authority on tests of the collection and sampling equipment and that sort of thing.

"Ted" Hatch has agreed to join us at luncheon. He is one of the best-known authorities in the world on the effect of air pollution on the human lungs. He is not a medical doctor, but he can tell you more than anybody else of whom I know, and more than I can even possibly

think of.

He is also on a tight schedule, as Doctor Evis knows.

"Ted" Hatch will come back after luncheon as quickly as he can. We are not giving anybody too much time, but he will dramatize what happens in the human lungs from pollutants.

I do not think he will tell you that air pollution is a medical hazard, but he will tell you some of the mechanical facilities of a man for absorbing air pollutants, and when he cannot absorb them, and I hope you will get something from the conversation.

"Wes" Hemeon will be in this afternoon.

At ten o'clock Mr. Axel Peterson will be here, and stop in for a few seconds, and then we will go up on the roof of this building, where you will see an instrument so sensitive that it can register the puff of a cigarette, in a room about four times this size.

We are working on an instrument, and a reading device. It is on the roof, and the recorders are in the laboratory. Mr. Peterson will show that to you, and then we will come back here.

At eleven o'clock, we will have a movie in connection with coal-firing locomotives, which I understand is one of your problems, and it will show you how

the job is being done in the States of California and Ohio. It was provided by the coal producers and the railroads.

At eleven-thirty, we will meet with Doctor Hamor, Director of the Institute, and he will introduce you to General Matthew B. Ridgway, Chairman of the Board of the Institute, who would like to say, "How do you do" and welcome you to the Institute. This will give you an opportunity of meeting General Ridgway.

BY THE CHAIRMAN:

Q. He is the Korean General?

A. Yes, and is a General of all the Armed Forces.

I have asked Doctor Hamor to join us for luncheon, and as he is going out this afternoon with General Ridgway, that will be your only opportunity to meet with Doctor Hamor.

Doctor Hamor has been working on air pollution since 1905 or 1906, and he will be with us at luncheon, and when we come back "Ted" Hatch will pick you up, and carry on from there.

Tomorrow, you are going over to see Doctor Sumner Ely, of the city of Pittsburgh.

There are two programmes in this community, one is for the city of Pittsburgh, that is, within the corporate limits of the city of Pittsburgh, and the second is under

Mr. T. G. Wurts, which is a county programme involving some 129 communities. I do not think you have counties in Ontario --

DOCTOR EVIS (Secretary): Oh, yes.

BY MR. THOMAS (Oshawa):

Q. You say 129 communities?

A. Burroughs, townships and municipalities.

Doctor Ely's programme preceded the county programme. In actuality, the city's programme started in 1930, and they tried to concern themselves with the problems of the city, but things became so terrible in the Second World War, that nobody wanted to live here, and immediately after the war, the city programme was put into force, and began rolling.

Then they found that cleaning up the city was not enough, that they would have to broaden out in order to clean it up, so a county programme was started about 1945 or 1947, but it did not actually get into operation until about 1950 or 1951.

There are two entirely different programmes, each designed for its own situation.

Q. I suppose they consult with each other?

A. On occasion, but they have two different philosophies.

This brings up an important thing, and I would

like to leave it with your Committee. I will not say too much about the Association, but the Association has Fellowships in the Institute, and it concerns itself with collecting and disseminating information.

We travel throughout the country. We advise -- we do not consult -- legislative and administrative groups on their problems, and if we find there is not a local ordinance, we try to incorporate from one area something which will be of advantage to another area.

Each programme has to be tailored to the specific area in which you are trying to do a job. First, what are you doing? Secondly, what tools have you to do it with? And, thirdly, what is the impact on the population? Eventually, there is a package which really forms itself.

To pick up the programme at Pittsburgh or San Francisco or Los Angeles, and just carry it into Ontario, you will find yourself ending up with a great many headaches. We found that will not work too well.

You may talk about the standards of smoke control. Your philosophy of government in Canada is different from ours. We are great believers in home rule. The city controls itself. That is not necessarily true in Canada. In some instances, I think you have better legislative devices, but some of them I do not think would be tolerated

down here, so I suggest you do not try to prove something as being right down here, and then take it up there to watch it grow . It may not grow, because the climate is not proper for such growth.

You will have luncheon tomorrow with the Smoke Council of Allegheny County, a group of "every-day Joe's" like yourselves, who keep banging away at smoke control. It is composed of men who have no axe to grind, but they simply want to clean up the situation. They did not get too much done administrative-wise, and many times they were very wrong, but they became acquainted with the problem very soon, and were able to get the work done.

You will be talking to them tomorrow, and will see how they function.

On Thursday, the Allegheny Conference will take you out into the area, and show you some of the things which go on around here.

Mr. Reid will take you downtown tomorrow -- probably on the streetcar -- and you will again be on a tight schedule.

I have some packages coming up, one for each of you gentlemen, which contain considerable reading material. I do not expect you to read it all, but you may want to glance at it, and it will be here, so you can refer to it if you wish. Some of it has to do with

smoke abatement and other material has to do with locomotive smoke control. There is also a programme from our last meeting, so you can look at the papers, and if they are of any interest, through Doctor Evis or Mr. Belyea, we can make some arrangement to get them to you.

I have gathered that your problem concerns one pollutant, namely, smoke.

Here is another point I would like to make. I do not care how much you describe "air pollution", you are concerned primarily with the smoke-control problem, because it is a visible contaminant, and something you will want to clean up first. You just cannot get away from it.

When you speak about gases, people cannot see them, but they do see the smoke pouring out, and when you speak of these other things, they think you are trying to "kid" them. They say, "Clean up the smoke first, and then we will talk about the other things".

So we are trying to design our programme to meet your first step.

I think that is all I have at the moment.

BY THE CHAIRMAN:

Q. You have briefly gone over the whole situation. Would you like to speak a little about what you think of the job? You gave a brief resume of how you thought it

was done, and "Wes" (Mr. Hemeon) mentioned how he thought it was done, and I think it would be interesting to hear those two views, because they are related to doing the job.

A. We were asked the question to say in simple terms how the city of Pittsburgh was cleaned up. Is that what you have in mind?

Q. That is it.

A. I take the position that people, including industry itself, decided to clean up Pittsburgh, and that was it. The orders were given to clean it up and that was it.

"Wes" Hemeon took the position that the volatile coal used in the domestic facilities in the city, was responsible for the clean-up. I think "Wes" was correct in the city picture, in which he had his largest interest.

I also think I was correct in my position, and there we come to the difference in philosophy. I think we were both correct in that no one facet can be cleaned up and take credit for the total clean-up.

For instance, you have, at first, two cars on the highway, then ten cars, and then fifty more, and each car causes the air pollution to go over the critical point. Do you follow me?

This matter of percentage is a peculiar thing.

What difference does it make if it is 10 per cent. or 20 per cent. or 50 per cent.? It is still a percentage of the total picture, and must be cleaned up, but you have to go completely across the board to get it all cleaned up.

BY MR. ELLIOTT:

Q. There is one point I do not quite understand. You say you eliminated another different type of coal? What happens to the production of the mines, and the people who were supplying the coal?

A. Let us take it by two steps. First, there was the economic factor. Gas was becoming extremely plentiful and they had to get rid of it. It was piped up from Texas, and I think, regardless of the smoke problem, we would all be burning gas anyhow.

No.2: the coal was changed in form from the high volatile --

BY THE CHAIRMAN:

Q. That is, the soft coal?

A. Well -- alright -- to what is known as "Disco," being a low-temperature carbonization, by which sufficient of the volatility was removed to correct these changes, so it could be burned smokelessly.

Q. That is what I wondered. I did not think you would be using that, and putting the smoke out, as was

being done before?

A. No.

THE CHAIRMAN: It is the same outfit, but they changed the coal.

BY MR. ELLIOTT:

Q. The mines producing the coal had improved?

A. Yes. I do not think that had much influence on the problem, because everybody is burning gas.

Q. But you did not put anybody out of business?

A. No more than any other thing. In St. Louis, where they invoked the first coal-regulating programme, they were buying coal in Illinois, and they legislated against the use of it in hand-fired plants. They can still use it in stokers.

This meant they had to go to West Virginia and get the Pocohontas coal, which is low volatile, and they had to open new fields of anthracite, and the Belleville coal was left out.

Then, what did they do? They put on a terrific programme to sell stokers.

Q. One compensating for the other?

A. Eventually, yes. They were putting nobody out of the coal business. I understand you have some very capable coal men in Canada. I think if this problem is presented to them in the proper manner, it will afford

the opportunity to recover or hold their markets, and you will have no problem. If they can burn coal more efficiently in the stokers, they will keep their customary markets, as against gas or any other competition.

I think it is a selling job which has to be done.

MR. ELLIOTT: The biggest sales problem we have is through the government agencies.

BY MR. SCHENK:

Q. You mentioned your idea, and "Wes's" (Mr. Hemeon) idea of how it was done. I have been living in Pittsburgh since 1928, and I felt the possibility of getting a real smoke-control law through was almost impossible, because of the low-volatile coal. I feel that Pittsburgh had been rather dead, and the people who had the interests of Pittsburgh at heart had decided they had come to the parting of the ways, they had to either clean it up, or let it be.

If Pittsburgh was to experience a new renascence, it had to have air pollution control. If they wanted to see smoke abatement in Pittsburgh, and to make the city conform to the new renascence, they had to go out and see that everybody did it, and everybody went ahead.

That is what you will run into. Do you want air pollution control strong enough, that you are willing

to step on somebody's toes, because you know that in the long run, everybody will be benefited. I do not think you can ever have progress along any line without injuring somebody.

Blacksmiths went out of business when you brought in automobiles. There is always a certain amount of disruption some place when you progress.

BY THE CHAIRMAN:

Q. That makes sense, because we can pass laws in our legislature, as you say, but if the people do not want to do it themselves, legislation is not worth anything. Industry should be prepared to spend money, and if they do not, the whole picture will "go to pot".

MR. SCHENK: Industry was to take the leadership. The people contacted industry a year before they went into the domestic field.

In other words, industry took the leadership and started this thing going. They made progress. I think Pittsburgh was the first one to take action, and industry certainly did a big job.

The first year it was in effect in regard to the domestic people, one of the Councilmen was "playing politics" with people who were worried about the increase in the price of coal, which had gone up on account of increased wages to the miners, and he was trying to make

"political hay" out of the grievances of some individuals.

But they went over the hurdle, and I do not think there is anybody in Pittsburgh now who would not fight to keep it on, and they want the leadership to continue. I believe the people are really sincere about wanting this, and they will not worry too much about some of the smaller groups which will be hurt temporarily.

If you are going to try to please everybody, you will have a smoke control law just like Pittsburgh had around 1910 or 1912.

I point that out, because I feel that is the whole crux of the thing. Do you want smoke abatement enough so that you will get in and pitch for it?

MR. BELYEA: What did they say about the burning of rubbish? Did they have to increase their municipal incinerator capacities?

MR. SCHENK: I cannot tell you too much about that, because ever since I have been living here they have been collecting the rubbish and hauling it away. I never had the problem of backyard burning, that I think some of the suburbs had.

THE CHAIRMAN: When did this new ordinance come into effect? Was it in 1946?

MR. SCHENK: The ordinance was to go into effect in 1941, but Pearl Harbour came along, and threw everything

out of the window, but as soon as the war was over, it went into effect in industry and a year later it went into effect in the city. Of course, part of that was due to the fact that people did not sell coal. A great deal of the dirt was coming from the coal -- the high-volatile coal -- and when that was controlled, it made a big impression.

THE CHAIRMAN: What about coal-burning locomotives? Did that take care of itself?

MR. SCHENK: Perhaps this could not have happened in Pittsburgh twenty years ago, because diesel locomotives had to be developed and made available, and the diesel locomotives were so developed and made available, and the companies were putting diesel locomotives into service, and, in my opinion, the revolution to diesels on the trains is remarkable.

When you realize that almost overnight -- in a period of a few years -- 80 per cent. of the big companies now have nothing but diesels. In the city, for the switching, they slipped in the diesels. But, as Mr. Ballman said, it was a problem anyway. The curve was going like that (indicating), when it should be like this (indicating).

THE WITNESS: In regard to this matter of locomotives, they still have steam locomotives on the

B. & O. So they have been gradually going out. It was not an over-night transition.

There was a terrific effort made to control these coal-fired locomotives, as long as they were in service, and that is still being done. The picture we will show you concerns partly Pittsburgh, and partly Columbus. The companies took it upon themselves to assign men to exhibit it, if the city did not.

This fellow Mitchell, who has retired a while back, was the Chief Smoke Inspector.

BY MR. ELLIOTT:

Q. If the city caught them, did the city fine them?

A. Yes.

Q. What would the fine be?

A. It starts at from $1.00 to $25.00 for the first offence, and for the second offence, from $50.00 to $100.00, and from $100.00 to $200.00 for the third offence.

You could not do that with the railroads, because the Interstate Commerce Commission have a provision of their own in regard to the railroad units.

Q. Is that a Federal law?

A. It is really the common law.

BY MR. THOMAS (Oshawa):

Q. The problem which is common to the city and the county -- I am a little surprised that there is not

a greater degree of co-operation between the two units, and probably there may be some room for co-ordination there.

Could there not be some general ordinance which could be enforced by the state itself, overruling these local units?

A. May I answer that later? May that be held up for awhile?

That brings us up to a point I would like to raise at this time, because Doctor Peterson has just come in.

DOCTOR PETERSON: Shall I just make a short talk, and then we will go up to the roof, and then down to the laboratory.

THE CHAIRMAN: That will be very good, Doctor Peterson.

DOCTOR PETERSON: Would you like first, gentlemen, a brief description of it?

THE CHAIRMAN: That would be interesting, I am sure.

DOCTOR PETERSON: The instrument you will see is measuring air pollution from the standpoint of visibility. However, we have picked a bad day in one way, but a good day in another way.

I will show you the graph which the instrument

is recording. It is a record of the fall, which is in my laboratory right now. We will have to go up to the ninth floor, to the top of the building, where you will see the instrument operating, and then go down to my laboratory, where this graph (indicating) is prepared.

Last night, at eleven-thirty, this thing took off on a wild tangent and practically ruined our record, because we had such a tremendous increase in smoke last night which we did not anticipate, and, as I say, it ruined our record.

MR. THOMAS (Oshawa): Because too many are smoking cigarettes?

DOCTOR PETERSON: You can take one cigarette, and mix the smoke in this whole building, and if the building was anywhere near filled with fairly uniform air, one cigarette mixed in with it, would cause no trouble to pick up.

THE WITNESS: May I explain how that might have happened?

DOCTOR PETERSON: Yes.

THE WITNESS: We have the J. & L. plant here -- that is, the Jones and Laughlin plant -- and it is an open-hearth operation, and it produces sulphur dioxide, and if the wind shifts we get the full blast from Jones and Laughlin.

I do not know that is what actually happened, but it is a possibility.

THE CHAIRMAN: It was really coming out of there last night. We had a good view of it.

MR. BELYEA: What are the commercial possibilities of this instrument?

DOCTOR PETERSON: We have in mind that it will have good commercial possibilities for inspection and research groups. The instrument as it stands now, as I think you can judge, is portable, which means we can take it around the city and survey large areas.

We have made arrangements with a helicopter to make some surveys of the larger areas.

MR. BELYEA: Is it more to survey a large area, or limited specifically to offenders?

DOCTOR PETERSON: According to how you use it. It can do both.

Another thing is that it is unique, in the fact that it can be calibrated very easily, and it can be calibrated with perfectly filtered air. We should call these calibrations"ten atmospheric full-scale." I will not go into all the technical details, because I know you have not much time.

The other instrument was impossible, up to date, to calibrate so that an instrument recording here, and an

instrument recording in Cleveland could not be compared, unless you got them together and ran them on the same graph, and if one changed, you would have to bring the instrument in again, and standardize it, whereas our instrument is standardized for the pure air itself. That is the unique feature we have.

This record (indicating) started about five o'clock, and this (indicating) is what it looked like up to eleven-thirty.

We keep a small book, because if we had to use the same scale, it would take a chart five times this wide (indicating), and would be more difficult to interpret than the way it is now.

MR. BELYEA: Would the big concentration here be up to 50 per cent. of the total?

DOCTOR PETERSON: Yes, some of ours are up to 50 per cent.

MR. ELLIOTT: How would moisture affect it?

DOCTOR PETERSON: Insofar as it affects visibility, it affects this instrument.

MR. ELLIOTT: If there was any mist or moisture in the air?

DOCTOR PETERSON: We did not run that particular measurement, so I cannot tell you.

MR. BELYEA: Did you have the wind direction?

DOCTOR PETERSON: No, naturally when you do this, you will have all these auxiliaries, because your readings would be rather useless without them.

THE WITNESS: That is a rare development. You can put driers on these.

DOCTOR PETERSON: Yes, you can take care of the humidity factor.

---Whereupon a short recess was had, during which the Committee visited the instrument on the roof and the laboratory.

---Upon resuming.

THE WITNESS: With your permission, gentlemen, we will now show you the film about which I spoke a little while ago.

THE CHAIRMAN: Do you still have a few coal burners in Pittsburgh?

DOCTOR SCHENK: Yes. I am not sure that the Pittsburgh and Lake Erie Railway has been all dieselized. I understood the other day that the B. & O. still has a few steam locomotives, but that company is about 80 per cent. dieselized.

There is a tunnel about two or three blocks away from here, and apparently there is some trouble there.

THE CHAIRMAN: In a normal day, prior to 1945, would it be very dirty right around here?

DOCTOR SCHENK: We had some days in the olden

times when it would be bad. They would take pictures and publish them in the paper, of "before" and "after". The curtains would become dirty very quickly. The housewives would notice it on their curtains.

I can remember years before when we had ventilators to bring the air in, and by the next morning you could see the dirt. It just came in over night.

I remember well my first experience with it in Pittsburgh. At that time, I was living up in back of the University of Pittsburgh.

BY DOCTOR EVIS (Secretary):

Q. Before you get onto something else, Mr. Ballman, could you tell us of a good, practical mechanism for approaching smoke control in a city, like going after the people with money, and getting the leaders?

A. This is mot important, gentlemen. I think most of you have some political affiliations, and have been "messing around" with it; otherwise, you would not be here. I mean, you know somebody who knows somebody, or something like that. These things happen, and obviously that is why we are having this meeting.

BY THE CHAIRMAN:

Q. Of course, you realize you are speaking to a group of politicians, and we are really working at it.

A. The point is that the great mass of people only

move in times of dire emergency, and they sometimes become riotous, and it is desirable at times not to have them moved en masse. So we have this movement of people in all directions. I think you know about what I am speaking. You cannot have a steel man or a railroad man, with an axe to grind, leading the people. You have to have somebody who has no axe to grind. Believe me, I am not making fun of anybody.

I had charge of the Columbus programme, and there were representatives of two of the biggest families in the state, one a merchant, and the other connected with the newspaper business. They were finally convinced that anything that was good for Columbus brings more people to the stores, and more people read more newspapers, and they took the thing by the hair, and went at it, and what happened proved to be very interesting.

The Mayor of Columbus receives $6,000. a year, and the Councilmen, of a city of some 350,000 people, receive around $1,000. a year.

They sent out to find a control engineer who could do the job for them. But they found that the fellow they selected was rather a naive creature, sort of a prima donna, who would not work for $6,000., and they could not afford to pay over what the Mayor was receiving.

So the two gentlemen to whom I have referred got together a smoke-abatement group under the aegis of the city, and they secured their own engineer, and they paid him more than anybody else was getting to take over the job. I am not trying to impress any of you when I tell you that it is a fact that I received more money than the Mayor.

The smoke-abatement fund was established -- I do not know by whom -- but the city gave me one cheque, and nobody could oppose it. That was because certain of the "big people" wanted it done that way.

On one occasion, we found one of these leading companies putting in new equipment which was not agreeable to us, and we fought it, and we said, "You do not know what you are doing; we take issue with you", and this "big man" said, "What are you trying to do to us?", and I said, "I am not satisfied with what you bought; I am trying to get you to get good equipment".

He called in his chief engineer, and he said, "Put all the pressure you can on the people from whom we bought it", and they put the pressure on, and we had a meeting in his office, with he, the civil engineer and myself, and we said, "It would not work", and they said, "This is the only time in the history of our equipment when it made smoke".

I said, "Where else did you have equipment in the smoke-control area?", and it turned out they had not one. I said, "That does not mean a thing to us, you are violating the law".

Then the consulting engineer came into the picture, and he said he had been hired as the company's agent, and he said to them, "I am on the spot; either you fix this, or you will never get another piece of business from my consulting firm, and you realize we have given you some millions of dollars worth of business".

They took the equipment out, and this "big man" said, "I do not care; we are not paying him". The pressure was really on.

The supplier of the equipment said, "Give us two weeks, and we will work something out", and in two weeks, he came back with a beautiful job, and this "big man" came over and thanked me for what I had said on their behalf, because they got that for which they were paying. The consulting engineer was more than pleased, because he could see they were getting a good job done.

This "big man" told me, "Any time if you are having any trouble politically, or somebody tries to do anything to you in your office which is not proper, please let us know". That is all it takes.

In this city, we had a similar situation where

a large interest was losing its trade, and all of the downtown real estate was "going out the window", and the stores downtown were losing heavily, and suffering a great deal of damage, as the people were not coming in to buy.

This Allegheny County company was a very sizeable outfit, and they decided they had to clean up Pittsburgh, because the cleaner it was, the better for them.

So when the Pennsylvania Railroad -- which was practically owned by one group -- was told to clean up the smoke, they cleaned it up. And others were told to clean it up, which they did, and it cost millions and millions of dollars, but they do have smoke control.

Let us not be naive about this thing, but just think of your housewives going out and telling the big industries what to do.

Somewhere you touch a magic button, and then the people move.

BY DOCTOR EVIS (Secretary):

Q. Would you say a word about buying real estate and property?

A. That was rather an unusual thing. It was pure politics. The Allegheny Council decided to have smoke control, and they went about, and everybody sold out their property, including the Pennsylvania Railroad, to

make this possible.

However, the B. & O. said, "No, we do not want to sell our freight sheds; we want to stay here. We have been here for a long time", and within twenty-four hours the B. & O. was not shipping a carload in this town.

BY MR. THOMAS (Oshawa):

Q. Did you find there was a tendency on the part of some industries to move out into the county, where the ordinances were not so restrictive?

A. I will answer that in this way, that in this country, when you have an investment of millions of dollars, you need not worry about them spending a few thousand dollars for smoke control, rather than moving.

Q. What about some of the smaller ones?

A. They can move anytime.

Q. We have a situation in Ontario, where, when we visited London the other week, there was a plastic industry on the border, but actually in the Township of Westminster, and while they had the power to bring in a by-law, and enforce its requirements, the local Council was very reluctant, because they said, "If you make it too restrictive, we will move out".

A. The philosophy has been here for the city to set up standards, and industry would rather move in with known standards, such as safety and smoke, and so forth,

than to come into a community which perhaps has no standards, and not know where it will hit them.

This idea of industry moving out rather than comply with the standards -- well, if you have industries like that, you do not want them around anyway.

DOCTOR SCHENK: More industry moved into Pittsburgh when it was cleaned up, than moved out. The ones which moved out, probably were the ones you were glad to get clear of, anyway.

THE CHAIRMAN: We are just moving into the problem you fellows have had for several years. We are just following along. You say that is an old threat. It is a new one, as far as we are concerned, and we are glad to learn that it does not worry you very much.

DOCTOR SCHENK: Look at the plant making all that smoke. It was built after the ordinance went into effect. It bothered me that the J. & L. would build within the city, because, with the restrictions, they became more strict than ever.

MR. BELYEA: Do you know how much money they have invested?

DOCTOR SCHENK: It is not a small plant. It has eight or ten open hearths.

THE WITNESS: More than that. They built this

new plant in this area.

BY MR. MORNINGSTAR:

Q. Just recently?

A. I cannot tell you just when it was, exactly.

BY MR. BELYEA:

Q. I think I heard it was about $600,000 per open hearth. It is big enough.

A. That is right. If you let a company know these things when they come in to build a plant, their capital expenditure can be charged off. If they have to put the equipment in later, it becomes a layout expense, and it is then expensive, and they will fight the daylights out of you on a deal of that kind.

There are certain industrialists who understand this sort of thing. They can tell you a great deal about these things.

BY MR. BELYEA:

Q. Does the Federal government give tax relief?

A. No. We are trying to get it, but we have not accomplished it as yet.

We have the same problem in this regard. Here they tax equipment in the plant, so if a man puts in a million dollars' worth of dust collectors, he not only has to pay for the equipment, but he has to pay taxes for the rest of his life.

BY THE CHAIRMAN:

Q. Is that a Pittsburgh tax?

A. It is a county tax. We had it originally, but they kicked us out of it. We had to go through the income tax law. We have tried to secure an amortization for five years on this equipment, but we have not been able to get it as yet.

Q. What is the city's budget for smoke control and air pollution?

A. I should be able to hit that figure real good, because I read it just the other day. I think it is $75,000.

Q. And the county?

A. I think it is less than that.

Q. What staff has the city?

A. I just saw it in the newspaper the other day.

BY MR. ELLIOTT:

Q. What is the population of this area?

A. 600,000 in the city of Pittsburgh; 2½ million in the county.

DOCTOR SCHENK: They spoke of the tristate having 2½ million. Allegheny county would have about 1½ million.

THE CHAIRMAN: It is comparable in population to Metropolitan Toronto.

BY MR. BELYEA:

Q. When you come to these figures, probably you can tell us better than they.

In regard to this question of scientific research; I understand they are not doing too much.

A. Doctor Ely has a laboratory, and you may find that out from him.

Mr. Wurts has his own laboratory, and he is putting his efforts into industry, and they have to report to him.

I think you could well get that information from him.

Q. When we consider the cost of operating a programme, there is a higher cost than is shown in the budget information because it is industry which is paying that?

A. That is right, and our philosophy is, should the government become paternalistic and pay for the research, or should industry pay for it itself? I do not know.

BY THE CHAIRMAN:

Q. It is interesting to know that the air pollution and smoke control budget is $125,000.

A. No, it is $50,000 and $75,000.

BY MR. THOMAS (Oshawa):

Q. What would be the population of Pittsburgh and

the county combined?

A. Roughly a little less than two million.

HON. MR. KELLY: In Los Angeles, there was a contribution by the county for air-pollution control. There was a contribution of county funds.

THE WITNESS: There are only $4½ million for the programme, with $1 million going for building it up, so they are on about $3½ million.

Of that $3½ million, a sizeable portion is going for direct research; it is not all going for operations.

BY THE CHAIRMAN:

Q. You have it on a state level? We are operating on the state level, or the provincial level.

A. We are operating under the Pennsylvania State laws. They have set up in the Public Health Service, a division on air pollution, which is available upon request for investigations, testing and so forth, by a mobile unit, and they have the men to go with it.

They do no enforcement. They make recommendations; that is all.

The states vary in their approaches. New York and Massachusetts have direct-control laws, providing if the local group does not assume their responsibilities, the state must then move in and do the job.

BY MR. THOMAS (Oshawa):

Q. Enforcement, too?

A. Yes.

BY THE CHAIRMAN:

Q. What about Oregon?

A. They are in a fluid state. They have not made up their minds. They organized a Commission to recommend and I think the recommendation was that the local communities should carry the load, and the state would pay for it.

Washington is considering some type of legislation.

Pennsylvania has the type I have suggested.

All other states, to my best knowledge, set up what we call "enabling legislation", in other words, the state enables a city to control its own nuisances.

Q. They do that in California.

A. They do it by districts there.

We feel that here is a group where each state has to be looked at separately. I have just been over into the state of Delaware. They have 400,000 people, and some 2,000 square miles of territory, and there you have a state-control programme.

Q. It is rather small?

A. Yes. You have to think in terms of air-pollution areas. You cannot think in terms of political jurisdiction.

Q. The province of Ontario has around 6 million. It is a large province, as you know.

We have had laws there for years, both municipal and provincial. The purpose of this Committee is to revise those laws, and make a new start, so to speak, on the new issue of air pollution and smoke control in the province.

Would you like to give us a few basic opinions, in addition to what you have already given us, keeping in mind that we are formulating new laws at the provincial level? Perhaps you have some ideas there. I am not thinking of the average state in this country, but I am speaking of the larger states.

A. Doctor Schenk, can you think of any state with a population of about 6 million.

We have a tape recording of what Doctor Evis and Mr. Belyea indicated they wanted here. We could not get that here today.

Station KDKA, the radio station, said they would make the studio available to us, to hear the recordings. I do not think you could do that today. We could do it in the evening perhaps. Do you want to hear it?

Q. What is it about?

A. Air pollution.

Q. Who is speaking on it?

A. A fellow asks the questions, and I do the

answering.

Q. What do you think? You are answering a lot of questions now.

A. I think perhaps Doctor Evis and Mr. Belyea would have a particular interest in that. It is in connection with the air pollution programme, as you will hear a little later on.

Q. Now, with 6 million population --

A. If I may. Pardon me. I know Doctor Schenk has something to add to this, but let me go on before I run down here.

We feel that air-pollution control activities -- while you talk about research and co-operation with industry and so forth -- still basically is a policing problem, which is normally a local effort.

Although you have your provincial police, and we have our state police, which supplements the local police when they have difficulties which they are not able to handle, you also have to have legislation to get the job done, and in terms of ultimate administration.

In Los Angeles county, they have 450 inspectors to cover an area which is equivalent to most of our states. This, to me, has become so large, that it has become a beautiful area for politics to become rampant, and I disagree with it, personally.

In other words, if each little group controls it, allowing the state group to supplement their activities if necessary -- I am speaking of the United States, as they have the equipment and manpower to serve each of the little groups if necessary--but if it is permitted to spread over the whole state, it can soon become a real problem.

In the State of South Carolina recently, they had passed through their Senate a state-wide control programme, but they did not have an air pollution officer available, and the county officers became the air pollution control group. If you ever want to see something vicious, that is it. It gets into the realm of the ridiculous.

We do not want to go around telling people what they should do. We are not that smart. We have many years experience in many areas, and if, through that experience, we can suggest anything which you, or South Carolina, or anybody else, might do, those are the things we want to know.

We went to South Carolina, and I said, "What is the point of this?", and they sat down at Charleston, which has a large area which needs air-pollution control, as they did up here around Columbus.

I said, "You have a programme here", and they said, "Yes", and I said, "You are trying to control the

whole state to get hold of Charleston", and the fellow who wrote the Bill said that it looked ridiculous, and he said, "What do you suggest?", and I said, "Why not create districts, and give each district a chance to set up its own programme?". He said, "That is swell".

So they started along that line. He said, "Shall we put the state in it?", and I said, "If you want to suggest being a segment of the state health department, they may have their equipment and men, and upon request, they can come in and make tests and run surveys, and they can supplement the facilities of the local groups". He said, "That is just what I want". I said, "You did not write it that way", and he said, "I know we wrote different things; we just threw this into the hopper, to see what would happen".

If we can get people to come to us, then what are the tools with which they have to work? It seems to me the package will form itself. I do not know what tools you have. I do not want to commit myself regarding the present form of government, but I know the States pretty well.

BY MR. ELLIOTT:

Q. In the town from which I come -- Hamilton, Ontario -- we have a steel mill in the city, as you have here.

Our prevailing winds -- as you know, the city of Chicago is overlooking the lake, and about 70 per cent. of the dirt and smoke is taken out over the lake, but about 30 per cent. the breezes bring into the city. You have not anything like that here. You have no lakes. I do not know what your charts may show, whether you have a terrific dust fall, but if you have, you have a problem.

If you know the city of Chicago, we are in a similar situation.

Toronto is the very opposite, because all along the lakeshore, industries are located; it is a large industrial area, and the railroads also run there, and the wind is from the opposite direction, and blows the smoke over the city.

A. Let me point this out. I wanted to say this when Doctor Schenk was speaking. They said the city was dead, and the problem was whether to let it continue to die, or to make it better.

There are very few cities which were as close to being dead as this town here, and you cannot approach your problem on the basis of the Pittsburgh situation, because this town is not dead. And you are moving in that direction. Therefore, if you start your programme, you are a province, and you cannot have the public clamouring for relief, as we have had here.

Q. No, we have had absolutely none.

A. You have two choices; you have this clamouring which is difficult to catch up with, or you can let it go until it gets so bad that somebody finally clamours.

I do not know just how to advise you.

DOCTOR SCHENK: There is also the question of education to be considered. I think it depends on the co-operation of the people. While it is a police thing, you cannot police anything if the people do not want it. Just look at the numbers "racket" and things like that. If you get the people to co-operate and your enforcement officers are on the job, you will make progress. The people are "sold" on it.

We do not have to tell J. & L. or the Pennsylvania Railroad to do it. These people have been sold. They are policing themselves. The committees in the steel industry themselves are reporting to them. The co-operation of the Allegheny and Pittsburgh ordinances is just a threat, because they have everybody else doing the work. If you tried to enforce it, you might need a $2 billion payroll, if you wanted to put a club over their heads.

Can you not convince your people that you can do something to improve the communities, rather than going at it with hammer and tongs?

Education is a slow and painful process. But if there is going to be any continued success in Pittsburgh, it is because everybody is obeying the law, and you will have difficulty enforcing anything which the majority do not want.

BY MR. THOMAS (Oshawa):

Q. We are interested in the provincial problem, such as you mentioned in the State of New Jersey, when you said if the local council refused to do anything about the situation, the state would step in.

Would there not be the tendency on the part of the local municipalities to say, "Let the state do it"? Therefore, you have to either get into the programme with both feet, or get out of it.

What have you to say about that?

A. I think Doctor Schenk is perfectly right in his point. I added the police, because of the legalistic necessity.

DOCTOR SCHENK: But your laws will not accomplish what you want.

THE WITNESS: But our laws are based on the greater number of people who police themselves.

Now, getting back to your point. The great evil with all governments is to let the other fellow do it, particularly if it will cost money. That is one of

the weaknesses which will develop in the New Jersey programme, I think. I do not agree with the New Jersey programme, speaking personally.

There is a little municipality of about 10,000 people which will move in there, and I do not see why a city with 50,000 people cannot take the same attitude.

I will agree with the statement that they should either get in or stay out.

Further, and following what Doctor Schenk said, I do not know how much publicity you have done in the Ontario area, but I believe that there is the "cleaner-air week" coming up in Ontario, and that might be a good time for "kicking this thing off".

What do you call the top man of the province?

DOCTOR EVIS (Secretary): The Prime Minister.

THE WITNESS: Just use that as a proclamation to do a little drum beating for a couple of years. I do not know whether you are ready for that. You will have to decide that. You cannot -- simply cannot -- push people around.

What bothers me with provincial type of government, and the reason you are going to step in, is because the local groups will not accept their responsibility, and you are imposing something on them which they will not do for themselves.

THE CHAIRMAN: That is not the way at home. The province is responsible for the municipalities. It is entirely different.

Another simple thing we have to overcome is that under the provincial law regarding smoke and air pollution, there are certain exemptions which you do not have here.

I think if we can bring all the industries under the law, and there be no exemptions whatever, we have gone a long ways.

DOCTOR SCHENK: We have an exemption. They gave the open hearth people five years, and if they did not have it done, but were attempting it, it could be extended.

MR. ELLIOTT: There is an exemption for the steel plant?

DOCTOR SCHENK: Not the steel plant.

THE WITNESS: But for the processes.

DOCTOR SCHENK: They have to report annually.

THE CHAIRMAN: In our district, the brick and tile industry as a whole is exempt.

HON. MR. KELLY: I think you "have something there"; industry reporting annually.

THE CHAIRMAN: Such as International Nickel?

HON. MR. KELLY: Yes. We have had the threat

of them moving elsewhere, where there is no nickel.

How about the brick and tile yards here?

THE WITNESS: They would have to set up a project, and show results.

THE CHAIRMAN: At the present time, they are doing nothing.

THE WITNESS: You have Doctor Evis and Mr. Belyea who could evaluate such a programme.

BY MR. MORNINGSTAR:

Q. Some of these industries would be willing to eliminate the smoke, but they say, "Tell us how to do it".

I have had that trouble in municipal council.

A. Then they do not want to do it.

BY THE CHAIRMAN:

Q. Should we advise them?

A. Do not tell them how to do it, because if they do it your way and it does not work, then you are "in a spot".

Just say to them, "Boys, this is your problem".

DOCTOR SCHENK: This committee is representative of the J. & L., the United States Steel, and other steel operations here, and they have to report every year.

There is a railway committee which has to report. It is not up to them to say, "Tell us how to do it". They have tried all kinds of things to stop the pollution.

THE WITNESS: If they do not move, just "crack down on them". It is that easy.

BY HON. MR. KELLY:

Q. They have to report under what ordinance?

A. Under the county ordinance.

Q. There is an ordinance requiring that they must report?

A. Yes. There were a number of industries started collecting fly ash. They collected it, until it came out of their ears, and they did not know where to go with it. They tried to develop some way of using up the fly ash, but the industry said, "We cannot use it any more, so we will not collect any more".

BY MR. ELLIOTT:

Q. What about gases from the motor cars and diesels? You have a number of hills here.

A. Yes.

Q. We have the problem in Hamilton, the town from which I come, where we have a big hill -- we call it a "mountain" -- but it is only about 480 feet high. The exhaust from the diesels and buses pretty nearly suffocate those following in cars behind them.

A. We have that problem, but it has not yet been recognized. We are moving in that direction.

Q. We have more of that possibly than any place

else in the world.

A. That can be corrected. You have a basic problem with your diesel trucks. That has been the cry over the years, but the engines have not been improved.

There you have engine plants which can easily be re-designed. The impact has not been felt by industry as yet. They are just beginning to recognize it, and I think they will get a jolt. The new Oxy-Catalyst is only a temporary thing, until they get around to basically changing their engines.

BY DOCTOR EVIS (Secretary):

Q. Would you say the Oxy-Catalyst dieselizers is practical enough to say to our Transportation Commission that they would have to put it on all buses?

A. I cannot answer that question. Let us adjourn.

BY MR. THOMAS (Oshawa):

Q. There is one question I would like to ask. In an industrial community like Pittsburgh, plans are sent to the authorities for approval. Does the air pollution officer play any part in regard to those plans?

A. I can only speak for Columbus, where we had it set up, that no building plan could be approved, until they had a clearance from the Air Pollution Control authorities.

Originally, we were interested in stack sizes

and frame sizes, and we did not ask for the actual boiler design. That came in later. And if we have that information, we could card it, and get ready for it.

DOCTOR SCHENK: There were reasons for that; they only discovered that the other day.

THE WITNESS: I think we had better adjourn now and as General Ridgway I understand is waiting to receive you.

---Whereupon a short recess was had during which the Committee waited upon General Matthew Ridgway, Director of the Mellon Institute, where the following proceedings were had.

- - - - - -

GENERAL RIDGWAY: Gentlemen, it is indeed a pleasure to see you here, and to welcome you to the Institute. I hope if there is anything we can give you by way of information, or by looking at our facilities, I can assure you they are yours for the asking.

We have no secrets here, and whatever we have, we will be only too glad to have you look at.

THE CHAIRMAN: Thank you, General Ridgway. It is indeed an honour and a privilege to meet you this morning. I think we have read as much about you in our papers at home, as we have about General Eisenhower.

GENERAL RIDGWAY: I hope it was good.

THE CHAIRMAN: It was all good.

GENERAL RIDGWAY: I regard it as a great privilege, to have had the opportunity of meeting some of the Canadians. I was not near the Canadians in Europe in World War II; I was east of them, but I can assure you I have some very dear friends in Canada, and I hope to get up there and have a reunion before very long.

Again may I say it is a pleasure to see you here, and to tell you that we are very glad to have you.

THE CHAIRMAN: Thank you, General Ridgway.

- - - -

---Whereupon the further proceedings of this Committee adjourned until this afternoon at two of the clock.

- - - -

AFTERNOON SESSION

Pittsburgh, Pa.,
Tuesday, June 12th, 1956,
2:00 o'clock, p.m.

- - - -

The further proceedings of this Committee reconvened pursuant to adjournment.

Mr. A. H. Cowling, Chairman,
Presiding.

PRESENT:

Messrs. Elliott,

Murdoch,

Mornginstar,

Gordon,

Thomas (Oshawa)

Hon. Mr. Kelly,

Dr. F. A. Evis, Secretary.

APPEARANCES:

Mr. Harry Belyea,	Hygiene Engineer, Ontario Department of Health.
Mr. Harry C. Ballman,	Executive Secretary, Air Pollution Control Association.
Dr. H. H. Schenk,	Industrial Hygiene Foundation.

Dr. Axel Peterson,	Head, Dept. of Instrumentation, Mellon Institute of Ind.Research.
General Matthew Ridgway,	Chairman of the Board, Mellon Institute.
Dr. W. A. Hamor,	Director of Research, Mellon Institute.
Prof. "Ted" Hatch,	Industrial Health Engineering, University of Pittsburgh.
Mr. Wesley Hemeon,	Director, Hemeon Associates.
Prof. Sumner B. Ely,	Superintendent, Bureau Smoke Prevention.
Mr. Gilbert Arnold,	
Mr. Thos. G. Wurts,	Director, Bureau of Smoke Prevention.

- - - -

HARRY C. BALLMAN,

re-appearing before the Committee, but not being sworn, continues his deposition as follows:

BY THE CHAIRMAN:

Q. Have you anything further of interest, Mr. Ballman?

A. Mr. Hatch is here. Mr. Hamor has not arrived as yet, and I do not know just where he is. I think there are perhaps a little better than half of us here. As to where the rest of them are, I do not know.

Doctor Evis, shall we start off with Mr. Hatch?

DOCTOR EVIS (Secretary): Yes, I think that would be a good idea.

THE CHAIRMAN: As you know, gentlemen, we are a Select Committee of the Ontario Legislative Assembly.

THE WITNESS: Mr. Hatch is with the University of Pittsburgh, School of Public Health and Prevention.

I will ask him at this time to tell you what the specific area of his interest is.

MR. HATCH: Mr. Chairman and gentlemen; I am in the School of Public Health, in the Department of Occupational Health.

I am an engineer, and for years have had an interest in the field of air contamination inside of industry.

For the record, I am also a member of the staff of the Mellon Institute, Industrial Advisor to the Industrial Research Foundation.

I have not personally been engaged in any direct active way in the communities air pollution problems, but I do have a natural interest in it, and it happens I have had a particular interest in the problem of respiratory diseases, and since one aspect of air pollution has had to do with its effects on the lungs, and we are carrying on research at the University under a grant from the

Federal government.

The purpose of this research is to try to contribute something to a better understanding of the nature of the health hazard which may be associated with air pollution.

When Mr. Ballman asked me to talk, I thought the most useful thing would be for me to refer to certain aspects of the health hazard in connection with air pollution, as I understand it. That is what I had in mind, in talking to you.

I presume it is a matter of great interest to you to get the best possible definition of what "health hazard" means.

In my thinking, I have divided it into three categories, and I think we need to keep those separated in our minds.

First of all, we have had experience with the ill effects from the pollution of the atmosphere, from some well-defined industrial sources. For example, one which is commonly referred to, occurred in Moscow two or three years ago, where a certain number of people were poisoned and died as a result of pollution from an oil operation.

In that case, there was nothing mysterious about it at all. There was a definite, and well-known toxic

agent given off by the process, and that agent was hydrogen sulphide. We know how it acts on man, and how much it takes to kill a man, and in the situation in Moscow, enough got out into the atmosphere so that in the community around the industry, the concentration of hydrogen sulphide built up to a point where it produced its well-known toxic effects -- and that was that.

We have had approximately the same thing in Utah in connection with a steel mill, where it was giving off a fluorine compound.

Again, we know about the toxic properties of fluorine, and we know it is given off in sufficient concentration to contaminate vegetables and potatoes, and to poison the grazing animals.

The origin of the pollutant is well known; the way in which it spreads around the community is well understood, and, obviously, the only thing is to put in enough controls to keep it from getting out.

There are other problems like that where you have a defined toxic agent, and if it gets out into the atmosphere in high enough concentration, it will do the damage, the same as inside industry.

That is one kind of pollution problem, and one which, to my thinking, presents no difficulty insofar as understanding it is concerned. The properties are pretty

well understood.

The second category is the sort of thing about which I will speak more extensively in a moment. It most recently happened in London, and earlier, in Denora, just next door, and earlier still, in the Mews Valley in Belgium, where people were made sick and died in considerable numbers, as a result of the building up of pollution in the atmosphere. I will speak about that more extensively in a moment.

But here the situation was different. No one knows to this day what was the specific agent, or if there is a specific class or combination of agents, or combination of circumstances leading to the sicknesses and deaths, but, nevertheless, people were made sick and died. There was no question it was there, and there was no question but what there was pollution. I want to speak about that a little more just a little later on.

The third category in regard to the ill effects on health is even a more miscellaneous one, and that is the sort of thing they have in Los Angeles, where there is no question in the world but what the pollution is causing some kind of ill effects to the population.

One clear-cut effect which has been discovered has been described as "eye irritation". They have attempted from every possible angle to determine to what

extent the pollution is producing illness and death, and if you have been out there, you know they have not been able to show any connection at all between pollution and the health of the people, other than the eye irritation.

During the heavy smog period a year ago last November, when they studied it, and subsequent events, in terms of illness and terms of any kind of a yardstick they could think of, they could not determine what had happened. Absenteeism was less; there were no more absences from schools, and no more admissions to hospitals. The only thing they found was in the convalescent homes, the old people, who were not sick enough to go to a hospital, were made ill, and there was some suggestion there was some relation with the convalescent homes which was out of the ordinary.

In some other sections of the country, you may find some situations like this, but it is not demonstrated in terms of clear-cut sicknesses.

With respect to the first; there is nothing very mysterious about it. There may be some technical and economic problems which are serious as to what to do about it, but they are not insurmountable, and on the technical side there is no mystery as to what the problem is.

The second category, I might say to you, is that

which occurred in London, Denora and the Mews Valley, because those three were the most outstanding examples of the kind and extent of ill health, which again resulted from air pollution.

The interesting thing to me is this; the first started in the Mews Valley in the early 1930's. That was an industrial area. It had a steel mill, and a zinc refining plant. It was located down in a relatively deep valley, and it had been in operation for a long while, and suddenly there was this realization of the unusual fact that a sizeable fraction of the population were made ill, and an excessive number of deaths had occurred. I think there were 60 deaths occurred in a short time.

The Belgium government realized that something unusual was happening quite early in the event, and secured some technical people to go in there and begin studying it, before it was finished. They made an extraordinary and most rigorous study, but they never did find out what it was. One concluded it was hydrogen sulphide; another thought it was a fluorine compound, and one said it was the precipitation of ice crystals, and that is what had killed them, but they never did come to any clear-cut conclusion as to what went on there, and after the flurry was over, the thing was forgotten.

The thing occurred in Denora, and the parellel between Denora and the Mews Valley was quite remarkable, the location of the steel mill and the zinc refining plant, both cases located in a deep valley, and in both cases a period of inversion which existed for several days,and there was a fog which was just like a lid clamped down over that valley, but in the case of Denora, we can plot the course of the events. There was a little rise in the number of deaths early in the week, and on Wednesday the thing began to go up, and on Thursday, and over the course of a couple of days, practically all of the deaths and cases of acute illness occurred and then it remained level until the end of the week -- Sunday, and on Sunday for the first time, the fog began to break up, and the sun came through, and as far as deaths and sicknesses were concerned, they dropped off again. The same thing had happened previously in the Mews Valley.

Another thing which was discovered in the subsequent analyses of what had gone on was that the deaths were quite evenly distributed between men and women; there was no sex difference. The men who worked in the plants, and presumably would have had higher exposures to what might have been coming off from the industrial processes, did not suffer any more ill

effects than the women. This indicated it was not something peculiar to the job itself.

The second thing was that these deaths and sicknesses were very largely confined to elderly people.

We divided the deaths into terms of age to calculate the death rate at different age intervals, and it rose precipitatively above the age of 50.

The next thing was to determine the rate between 50 and 60, and from 60 to 70, as most of the deaths and illnesses occurred in those age groups among people who had previous histories of respiratory diseases.

In the cases of people who were less than 50 years of age, the deaths and illnesses were very largely restricted to those who had early chronic diseases, such as chronic heart disease, or vascular diseases or respiratory diseases.

The same pattern occurred in Denora as occurred in the Mews Valley.

Another thing in Denora was that in addition to the deaths and cases of illnesses which came to our attention during that period, the United States Public Health Service went into Denora a couple of months after it was over, and made a house-to-house canvass. I think they visited every third house, and the public

schools, with a questionnaire, and they sat down with the members of the household and reviewed their experiences with them.

In this case, they came to the conclusion that over 5,000 individuals in Denora, which has a population of, I think, 15,000 or so -- more than 5,000 people had suffered some sort of discomfort or ill health during those weeks.

Those figures are not too meaningful because they came in two months after all the hysteria of this thing was over, and it took a brave person to say he or she did not have it, as it seemed fashionable to have had it.

But it showed the same pattern in deaths and illnesses, the extent to which the severity went up with age, and was particularly limited to people with early respiratory diseases or heart diseases.

Then we come to the London experience about which you are no doubt familiar. That was during the London fog of 1952.

Here we find exactly the same thing happening again insofar as the effect on the people was concerned, but we did not find the same local situation. London is not an industrial town in the same sense as Denora, nor as is the area in Belgium. But we found the same

course of events; a sudden rise in the number of deaths from above the normal level at the time, and which took place very sharply, which turned out, in a subsequent study, again to be very largely confined to people in the older-age groups, and amongst those, to be largely confined to people who had a history of previous cardiac and respiratory diseases.

Doctor Schenk was very active in this, and it was assumed the situation was the same as in the Mews Valley and Denora, and they looked to the industries. But, of course, a great deal of the work done was in Denora, in sampling the various pollutants which came off the industrial operations, hoping to thereby demonstrate the possible presence of some clear-cut, well-known, clearly defined toxic agent.

They found present, being generated and released by industry, every common kind of pollutant, carbon monoxide, sulphur dioxide, oxides of nitrogen, and so on, and so on, any one of which is known to be damaging to the respiratory system.

But they were not able to demonstrate in Denora--nor had they been able to previously in Belgium -- that any one of these agents of known toxicity was built up in a community of two concentrations which were necessary to produce this effect.

Sulphur dioxide, for example, -- the highest concentration probably which occurred anywhere in Denora, the dense fog, was not more than one-fifth of the required concentration that men are regularly exposed to in industry.

So if sulphur dioxide was not the cause, it had to be caused in some other way, because the concentration was not high enough to produce the effect in its own right.

That is true of all these oxides of nitrogen and the others.

When the London affair came along, it was the same kind of an industrial area, but the facts were exactly the same. You could have taken the case of London, and put it into Denora, and in terms of pathology, there would be no difference between them.

So it was quite clear that whatever was operating in London, and whatever was operating in Denora, and back in the Mews Valley, to produce illnesses and deaths, the end product was the same. It was quite clear that whatever this agent, or combination of agents might be, they were not limited to the steel mills nor the zinc refining plants, since the situation in London was quite different.

So, as a result of the London experience, we

have this kind of a picture, as I see it, of the problem. At the present time, there are present combinations of circumstances of air pollution given off by industrial operations, and by domestic operations, which can be poured out into the community atmosphere, giving a low level of ventilation, and they can be built up in that atmosphere to a sufficient degree, and for a sufficient length of time, to act on people who are already bothered in such a way as to speed up their processes of deterioration, leading up to and including deaths.

There were poisons in London, as you will find out in the report sent in and looking at one of the cases which occurred there, which would not be recognized in terms of medical manifestations as, in any way,shape or form, different from the cases one sees year in and year out of terminal bronchitis.

Medically speaking, the nature of the sicknesses and deaths were, in no way, unique, in the sense that the doctor might look at a person and think you have typhoid fever, or something; all they could say was, "You have a serious cardiac condition which causes death".

That is where we stand. Air pollution can produce illness and death. It is not limited to industrial communities; it is not any different in its

manifestations, whether it is in an industrial or non-industrial community, and just to make it more complicated, it is no different from the kinds of illness and death which occur all the time medically.

The only way you could say these people were made sick and died because of air pollution, was because the number of cases were higher.

In London, for example, during the early period in December, we had a death rate from cardiac and respiratory diseases running along not unusual as compared with the previous November.

In the previous December, perhaps the record went like this (indicating), but from the first week in December, you had this (indicating), and subsequent to that week it also went up into January, and so in January, the deaths from respiratory diseases in London were higher than the average for the month of January over a period of time.

However, -- and this is the interesting thing -- we have compared the death rate in the city of London, with the outlying rural or suburban areas, and found that during this week, when there was this situation in the city of London, out in the suburban area it did not show; it went along very much as you would expect for a normal year.

Also, for this period of time, the outside communities felt it. In other words, what happened to increase the death rate in January was operating in the rural and suburban areas, whereas, what happened in December in the city, did not affect the outlying suburbs at all.

This was an actual typical epidemic situation, and its subsequent rise was due to the delayed effect of air pollution, and was very definitely a rise in respiratory illnesses in the community. The amount of sicknesses and deaths is no different from what you have all the time, so if you have this rise, it seems to me it could be argued to be the effects of air pollution.

Now as to the magnitude: I do not know how many are familiar with the history of the great cholera epidemic in the early 1800's, referred to as one of the great disasters of modern times.

The number of deaths in December, 1952, in London, was, on a population basis, greater than the great cholera outbreak of the 1800's. So, in terms of people who were made sick, and who died, air pollution can be the equivalent of such a historic epidemic as that.

We had in this country, in 1934, in the middle west, an epidemic of about the same proportions, also

caused by a form of air pollution, about which we did not hear very much, but in the summer of 1934, through Ohio, Illinois, Indiana, and Pennsylvania, there were thousands of death from heat in the summer time, of exactly the same pattern, elderly persons with histories of bad hearts and in chronic ill health, being subjected to high temperatures, they just died, and in terms of statistical records, they showed exactly the same kind of thing.

The reason I brought in the factor of heat is that it is one of the things which is terribly important in looking at the people in which we are interested, obviously we have to have the best possible understanding of the national health hazard, and develop the wisest sort of procedure and policy to deal with it.

If our problem just is one confined to those elderly people, and people with histories of chronic ill health, that is one thing. If, however, there is, at the same time, an effect on the population which is not showing up in the form of sickness and death, but may be accumulating over the years, we need to know that, too.

That brings me to my next point. A great many people in this country argue that since this happened, it proved that air pollution can kill people,

therefore it follows it also can damage people, short of death, even though you cannot measure it at the moment. I do not think that follows at all.

I do not think it would be wise at this stage to come to any definite policy and to assume that because this happened, there must be chronic ill effect on the population. However, there may be. Some authorities say there is not, but, at the moment, there is no evidence to support the view that there is.

For example, in Denora, they examined the vital statistics over a period of thirty or forty years, and found, if anything, year in and year out, the death rate in Denora was lower than in a rural community not far away. In other words, in terms of the death rate, there was no evidence that in a normal period, year after year, the people of Denora had suffered any ill effects.

MR. ELLIOTT: Is there an industry in this town, which would affect the air?

MR. HATCH: There is a steel mill there.

MR. ELLIOTT: It could not jump from one area to another?

MR. HATCH: No, but polluted air can move around. But I think it was altogether a local problem.

MR. ELLIOTT: Do they not figure that they were

having it from London, even thirty or forty miles away?

MR. HATCH: No. If you look at the geographical areas of the city of London, you will find that different sections of the city were affected. The areas with the highest effect, were the areas closer to the sulphur dioxide, around the electrical generating plant, and the railway yards.

MR. ELLIOTT: Were they near a chemical industry?

MR. HATCH: No. The problem was right down in the old city of London.

MR. MORNINGSTAR: From sulphur dioxide?

MR. HATCH: Yes. If you analyze sulphur dioxide, you will find that it goes up and down in magnificent co-relation, which makes some people say it was the sulphur dioxide which was causing the trouble.

MR. BELYEA: Was there any instance of coal-burning apparatus, which might have caused the trouble?

MR. HATCH: Not that I know of.

THE WITNESS: If I may put my oar in, I think it is more connected with hydrocarbons.

MR. ELLIOTT: Were they not having at that time, a blanket of fog, which was quite black?

MR. HATCH: I understand in Pittsburgh --

MR. ELLIOTT: No, I mean in London. If they held cloths over their faces, they were able to get home.

MR. HATCH: Yes, I suspect so.

MR. MORNINGSTAR: Then, Mr. Hatch, according to your theory, this is poisonous and injurious to health?

THE WITNESS: Doctor Schenk, while you were at Denora, I had the opportunity of doing some travelling around the Denora area, down as far as Cleveland.

DOCTOR SCHENK: Yes.

THE WITNESS: For instance, here (indicating) is the Allegheny; here (indicating) is the Monongahela, and here (indicating) on the graph is a curve, and, of course, the Ohio comes down here (indicating), and here (indicating) is part of West Virginia, and here you have the Kenawa River (indicating), and Charleston is on the Kenawa River, and you have Pittsburgh here (indicating) and Cleveland here (indicating), and Columbus here (indicating). This (indicating) is about 20 miles; this (indicating) is about 145 miles, and what is it to Charleston -- roughly? 150 miles, maybe.

And here (indicating) is your Appalachian range. We found the effects all the way over to Indianapolis, and we had this terrific condition of a lid all over this total area. I drove in it, and I happened to hit through here (indicating), before the Denora incident, and I kept on going, and here (indicating) is Columbus,

and up here (indicating) is Cleveland, and in Columbus, the SO_2 content went up to .2, which was significant, people were coughing, and so on.

Indianapolis noticed it, Cleveland noticed it, and Pittsburgh definitely noticed it.

During that period down here there was a sheer wall of smog, into which you could drive a car half-way. I drove down the mountain, and went down into the smog, and started to choke and cough all through that area, but nobody was seriously affected.

DOCTOR SCHENK: We noticed there was a tremendous area covered, and there was some rumour that they had trouble in Moundsville, West Virginia, and we got in touch with them and found it was only a rumour. There were plenty of rumours going around. We also checked on the possibility of an influenza epidemic, and we worked with the health authorities to have tests made. We were trying to eliminate all the possibilities we could. What puzzled us was, when it covered that whole area, why did it pick out Denora to be so bad?

THE WITNESS: These are all river towns. Here (indicating) is a large industrial centre; here (indicating) is an industrial centre; and here (indicating) is an industrial centre, pouring out great volumes toward Denora, and it was stopped right at Denora.

MR. ELLIOTT: Is Cleveland higher than Denora?

DOCTOR EVIS (Secretary): It is lower.

DOCTOR SCHENK: The hills go up on each side.

MR. HATCH: That was true in London, but you are not conscious of it. It was about 200 feet up.

MR. GORDON: I have seen these fogs, as a young man in Britain, in the industrial centres of Leeds and Yorkshire.

The railways have their stations, and they started in November to whitewash the edges of the stations until March, as they get these fogs from November to March, and every two weeks they have to whitewash these edges, so you can see the edges of the platforms. The platforms in the railway stations are elevated; you do not climb steps to get into the trains; you walk right in.

DOCTOR EVIS (Secretary): I have been in London when you could stick your hand out in front of you, and could not see it.

MR. GORDON: The railway companies deliver their own parcels; they do not have express companies.

As a boy, I was a parcel boy on one of these vans. They were never left alone. When the driver was delivering a parcel, the boy stayed there with the horses to protect the goods from being taken, and when a fog came on in the middle of the day, I would have to get out

and lead the horses, and find out what street we were on.

MR. ELLIOTT: Would there be any dirt in that area?

MR. GORDON: It is a dirty, soupy fog.

MR. ELLIOTT: Fogs pick up dirt, and hang onto it.

DOCTOR EVIS (Secretary): Can you give us something about the mechanism of the lungs?

MR. ELLIOTT: Did it show in cases in that area?

MR. HATCH: Just the sulphur dioxide.

MR. MORNINGSTAR: That must be injurious to health.

MR. HATCH: Yes. It will kill people when it is in sufficiently high concentration.

In London, in the last couple of years, we actually exposed people to sulphur dioxide, and the one to whom I spoke had been exposed to 800 parts per million, whereas the one at London was only 1½ parts.

The point is that sulphur dioxide and nitrogen sulphide can kill people, but they have to be in a very high concentration.

The question is substantially how do they operate, and how many people a day, in a smog area, become

sick and die.

Right now, that is the only outstanding health problem about which we know.

MR. BELYEA: Have you had any lungs analyzed for sulphur dioxide?

MR. HATCH: Yes, but the result was meaningless. When they were examined from a pathological point of view, they showed no different kind of damage than you find in the case of a person who died from pneumonia.

MR. ELLIOTT: It was a choking and coughing effect?

MR. HATCH: Just the effects on the respiratory system.

The situation, as I see it, is something like this, to make a rough sketch of the lung. You breathe in from the nose down the trachea, and out the bronchii, and they get smaller and smaller, until they finally come out in little sacs.

These ultimate little chambers are present to the extent of 700 million in the human lung. Around each is a blood capillary,which comes around here (indicating). A rather impressive figure is that there are approximately 1200 miles of these little capillaries in the human lung. If you took all these little chambers, and spread them out flat, they would very

nearly cover this room.

I mention that to impress you with the fact that this system, fortunately for us, is highly over-designed; its capacity is far in excess of what a normal healthy man ever requires. That is a fortunate thing for us, because we can engage in violent exercise for short periods of time without serious disadvantages. You can take one whole lung out of a person, and he still gets along, with a reasonable degree of activity.

We have an animal in the laboratory from which we have taken one lung. He was not very happy about it, but is alive, and there is not very much lung left. The other had been destroyed by cancer, but the animal is still living. This system will expand a great deal before it breaks down.

Now, without going into the physiology of the thing particularly, I will say that in regard to the mechanism in the body, if it is over-designed, it compensates in some way, and if you receive damage in one respect, you make up for it by compensation in another direction.

For example, most of us at our respective ages, have some degree of respiratory damage. You may breathe a little on the fast side after going two or three steps. This is a form of compensation. We have to breathe

faster because we do not get as much good air to breathe. The coal miner, whose organs have been damaged by exposure to dust, generally finally dies, not from dust, but from heart failure. Why? Because he has been compensated through the years for damage to the lungs, by the heart pumping more blood through, and finally it breaks down.

We picture the thing something like this; we can think of impairment of the respiratory system as something different from disability. You have lost some capacity, even though you will make up for it quite adequately by way of compensation, but you have some impairment, and you must recognize that you are being compensated for it. This will not necessarily produce disability, but if this impairment goes on far enough, it will produce disability whereas, it may be something else, and you can have a great deal of impairment with very little disability, or very little additional impairment with a great deal of disability.

The people who were made sick and died in London and Denora, were people who had suffered a great deal of impairment. They were getting along until this fog came in, then there was a little something imposed on these people at some point.

At the same time, healthy people in London who

were back here in this group (indicating) experienced the same kind of insult, but did not suffer anything more than a temporary disability. If something went wrong, it apparently was not confined just to people, but affected some prize grazing cattle. They were having a cattle show across the river in Lanwark, and suddenly several of these cattle developed respiratory diseases and died. It affected the prize cattle at this cattle show.

Recently I was speaking to a physician from London who made a significant statement to me. He said one of the things which happened was in the breeding of the beef cattle to produce stock, but the cattle were so disabled they could not run around the fields. They were trying to get out of the trap. They have been developed in the direction of more beef, but they have not built up any resistance in the respiratory system, which was in keeping with their weight. So, often appparently healthy beef cattle of this type were already disabled, in the sense that they were carrying too many pounds around for their hearts and lungs to take care of. These beef cattle were in the section over here (indicating).

The amount of sulphur dioxide to kill these persons back here (indicating) might have to be this much (indicating), but the amount of sulphur dioxide

which, added to the impairment of a sick person, in order to kill him, might have to be that much (indicating).

Any one of these substances we know have been given off by the combustion of coal and other processes could do this. Unfortunately, at the moment, we do not know how to identify these people.

No physician or physiologist could go out and examine the population of Pittsburgh, and say, "You are going to be subject to trouble tomorrow night".

That is what we are trying to do in the laboratory. We are trying to reproduce the whole thing in animals, and we are deliberately damaging the cardiac and respiratory systems, and in certain stages we will impose some nitrogen oxide to irritate materially, the type you can encounter in a typical solution, to see if we can show what I have pictured here to be indeed the case.

Then we had to have a typical polluted atmospheres,and study them separately, and then we might be able to say here in Pittsburgh, "These components are most likely to be the ones which will produce the greater results in people who are already sick -- in Los Angeles, or any other place.

At the moment, I do not personally believe there is any evidence that this kind of pollution -- this

second category -- tested through the years, leads to any cumulative damage.

There is no question but with a selected number of the population, under selected meteorological conditions, such as occurred in London and Denora, serious damage and death can be produced at times.

MR. BELYEA: Are you attempting to test any animals as to the effects of sulphur dioxide on dust particles?

MR. HATCH: That will be late in our studies, but we have to do that.

Now, coming back to the lungs; sulphur dioxide, as a gas, is quite highly soluble in water, so when it is inhaled in the air, and comes normally through the trachea, the trachea will be adversely affected.

Sulphur dioxide is normally absorbed up here (indicating). Very little of it gets down to here (indicating). It causes coughing or irritation, and subjective discomfort we have associated with sulphur dioxide, and if in high enough concentration it can slough off the surface, because of the resulting corrosion.

When it directly affects the population's respiratory tracts, about all it does is cause temporary discomfort. Because of its high solubility, it is quickly imposed up here (indicating).

Oxides of nitrogen is the reverse. It has a very low solubility, and when it is inhaled, it goes down here (indicating), and instead of causing damage as sulphur dioxide does here (indicating), it affects the little membranes which separate the air space from the blood, and that affects the body with what medical men call an "oedema" and there is some protonacious material which leaks out from the blood, and fills up these little air spaces, and that interferes with the passage of the oxygen into the blood, and the passage of carbon dioxide out of the blood, so, for a given amount of irritation, this oxide of nitrogen goes down here (indicating) and can be far more serious to an individual than the same amount of nitrous dioxide going up here (indicating).

Supposing you had, along with the sulphur dioxide, some fine dust fibres. It is theoetically possible for you to say that sulphur dioxide could be absorbed onto the dust particles, and prevent it from being taken out of there and going on to the dust particles down here (indicating), in which case the sulphur dioxide can produce the same damage down here (indicating), as the oxide of nitrogen. Everyone recognizes the possible important part that fogs play in this.

The fog droplets will be more than in the surrounding air, so that the little droplets when inhaled go down into the lung depths, and are deposited there.

Some recent studies have suggested it is not a terribly important factor.

MR. BELYEA: They are ready to do some of that work in Ottawa on the effect of dust on animals.

THE WITNESS: One of the speakers had that all mixed up, the last time I heard him.

MR. HATCH: In London, they compare the fog's sulphur dioxide in moist air, with dry air, and they found in moist air it was more irritating. That may play a part there, too.

DOCTOR SCHENK: I think when we are dealing with the irritating subject, we are not dealing with the usual toxic action, and what actually goes on is more with respect to the irritation, than the actual irritation itself.

MR. HATCH: These substances will help chemically to produce the same effect.

DOCTOR EVIS (Secretary): What is it, exactly?

DOCTOR SCHENK: It does not matter whether it is oxide of nitrogen, sulphur dioxide or fluorine -- it is non-specific. What goes on is fluid coming into the lungs, which is drowning the person; it is not the

SO_2 which is killing them.

MR. HATCH: They die in exactly the same way as from a case of pneumonia. The disease following exposure is commonly referred to as "chemical pneumonia".

THE WITNESS: Is there any way the body might build up resistance? For instance, with calluses on your hands, you can do more work than without calluses.

DOCTOR SCHENK: I think it is just the reverse. Some have greater ability to absorb the impairment. It is oxycatalytic, and it keeps going on and on, and if you have the ability to re-absorb the water, you can stand more than somebody who could not.

That is probably why some people are impaired; they do not have the ability to shove it off out of the way, and the first thing we know, it gets beyond a certain point.

MR. HATCH: I was mentioning to somebody during luncheon today that one of the physicians who visited here recently suggested that in Pittsburgh we might have made the situation worse, as far as the health hazard is concerned, than it was before.

His argument was this; that the smoke particles themselves perhaps played no part, but admittedly there was something here which had not been directed toward lowering sulphur dioxide.

He made the further statement which may or may not be true, that diesel locomotives were putting out more SO_2 than coal-burning locomotives. One of our major activities was to replace coal-burning locomotives by diesel locomotives.

THE WITNESS: That is based on the sulphur contents of the fuel. In England, they have a higher sulphur content.

MR. BELYEA: I can tell you of one plant, where it was about 1.3 per cent. of sulphur, which works out to about 40 parts per million of sulphur dioxide. The trained personnel were working in it, and I went into the room and there was no odour, and apparently would not injuriously affect the community.

MR. HATCH: We go out and analyze industry for SO_2, and if we find it is no greater than SO_2, we are perfectly happy. We kept charts of that in London and Denora.

MR. THOMAS (Oshawa): We went in to a smeltering place in Sudbury, and some of the men seemed quite content, but when we went in and came out, we were spluttering and coughing.

MR. HATCH: That may not be a compensating agent.

THE CHAIRMAN: Did you touch on cancer at all

in your studies?

MR. HATCH: No, I have not concerned myself particularly with the cancer problem.

In regard to the question of lung cancer; its causes are, at the present time, in such a state of confusion, that I personally doubt very much if we will have in the very near future any real clear-cut evidence in relationship to it.

There are some very suggestive features. In New Zealand, for instance, they have examined the incidence of cancer among adult men in two groups, one group which composed of those who were native born in New Zealand, and the other group were men who had come out from England in their twenties. They had spent their boyhood lives in Manchester and Leeds, and migrated out to New Zealand.

The incidence of cancer in the men who had come from England was significantly higher than in the native-born New Zealanders, and the suggestion was made that this was evidence of a damage done to these men whose boyhood lives were spent in a polluted atmosphere in their home towns in England, and cancer showed up as a consequence.

There may be some evidence that lung cancer is much higher amongst city dwellers than amongst country

dwellers, but no one has shown to date that it is higher in some places than in others.

Attempts were made in Pittsburgh a year ago to show there might be a higher cancer incidence amongst people who lived in certain parts of Pittsburgh, as opposed to those living in other parts, but it never has been proven.

THE CHAIRMAN: When you open up a corpse, for example, is it a fact that the city dweller in Pittsburgh had lungs which would be black and dirty, whereas the country person's would be clean?

MR. HATCH: Yes, it is a common story amongst the physicians in Pittsburgh. There were some who were in practice in Pittsburgh for several years before they knew that the lungs were not black.

THE CHAIRMAN: That would have a harmful effect?

MR. HATCH: Yes. We had a famous visitor in Pittsburgh, Doctor Haythorne, a pioneer in air pollution matters, who tried to demonstrate that the people of Pittsburgh were worse off than other people, but he could not show it very definitely.

DOCTOR EVIS (Secretary): It is the same with the liver. The liver is overworked, and an alcoholic, for instance, can "get away with it" for awhile, but finally they take a few drinks too many, and the liver

gives up.

MR. HATCH: The liver has a further advantage; it can actually regenerate.

THE CHAIRMAN: And the lungs cannot?

MR. HATCH: No.

THE WITNESS: There is one thing I would like to give you gentlemen while Mr.Hatch is here, and Doctor Schenk. All the physicians -- I do not like to use the term "all", but, for instance, Doctor Kehoe from Kalamazoo, and Doctor Cooper of the Health Service, and others, will not make a statement to the effect that air pollution per se is a health hazard.

On the other hand, you have other doctors -- and I am not mentioning names here -- are suggesting to us that just under 5,000 people will die in the communities due to air pollution.

They can get headlines by making statements of that kind, but with no proof. Each one is ready to do that, but they do not have the facts.

MR. HATCH: I am sorry, Mr. Ballman and gentlemen, that I will have to go. I have another appointment.

THE CHAIRMAN: I would like to extend our thanks on behalf of the Committee for your presentation. We have learned a great deal.

MR. HATCH: Thank you, Mr. Chairman. It has been a pleasure.

---Mr. Hatch retired.

THE WITNESS: Gentlemen, Mr. Hatch is the man who can tell you what happens in the lungs. I hope you gained a little from it.

"Wes" Hemeon is coming over here. However, I am still pitching, and if you have any other questions before I start on a new phase, I would be glad to answer them.

I would like to bring to your attention some of the facets in regard to the Mellon Institute.

It was the first Institute doing any work in research, which began back as far as 1912. There are nine reports to which reference can be made today. They are kept under lock and key, and deal with vegetation, animal life, costs, microscopic studies, dust-fall surveys, and so forth, in the city of Pittsburgh.

Anybody could take these volumes, similar to the volume I have here, and in it you will find the things there about which you are speaking today.

If you think back, you will realize it was about 1912 that we went from hand-firing to mechanical firing of fuel. Then we had the depression in the 30's, and the second World War, with the rapid expansion of

industry, and when it was all over, they did not like what they saw, so they started all over again.

I would like to suggest that if you at any time, as a group, have reason to do any investigative work, on occasion you may find areas of interest in a place like the Mellon Institute. We have the research Foundation, with "Ted" Hatch, and our own organization, and the fundamental work which was done here in this Institute, and you can start off at a higher level by looking into the research which has been done here.

MR. BELYEA: Mr. "Wes" Hemeon did a service for us in Toronto about four years ago.

THE WITNESS: I will show you what is in here (indicating) very quickly.

1. 49th annual meeting of Air Pollution Control Association, May 20th-24th, 1956.

2. A.P.C.A. News, March, 1956.

3. A.P.C.A. Abstracts, February, March, 1956.

4. Journal of the Air Pollution Control Association, February, 1956, containing an article entitled, "How Meteorology affects Air Pollution".

5. Annual Meeting, Paper No. 54-21, "Air Pollution Control as in Effect on the Canadian National Railway, 1954".

6. Annual Meeting, Paper No. 45-18, "Coal

Segregation as to Cost of Smoke and its Correction" - 1954.

7. Annual Meeting, Paper 54-13, "Increased Efficiency and Decreased Smoke with Boiler Instruments and Controls" - 1954.

8. Annual Meeting, Paper 54-7, "Conquering a Phantom of Air Pollution" - 1954.

9. Annual Meeting, Paper 550-34, "Air Pollution Control by the Detroit Railroads" - 1955.

10. Annual Meeting, Paper 54-23, "Equipment for the Collection of Fly-ash, Dust, Soot and Smoke, from the Flue-fed Incinerator" - 1954.

11. Annual Meeting, Paper 55-10, "Railroad Smoke Control in Columbus, Ohio" - 1955.

12. Annual Meeting, Paper 55-38, "A Layman looks at Railroad Smoke" - 1955.

13. Annual Meeting, Paper 54-20, "Smoke from my Observations"- 1954.

14. Proceedings of forty-fourth annual convention of the Air Pollution and Smoke Prevention Association of America, Inc." - 1951.

I think you will have some information to cram down their throats, if you use some of these.

THE CHAIRMAN: The C.N.R. must have been very brief.

DOCTOR EVIS (Secretary): I showed that to you

on the way to Ottawa.

THE WITNESS: From these papers, you will learn about our Association and our functions, and this (indicating) is an invitation; if you wish to accept it, fine. That is put in as the first objective of the Association.

I would like to extend the services of our Association, and discuss with you legislation you are proposing, and the problems you may have. We do not know all the answers, but if we can bring you up to date on the knowledge we have gained, I would like to be of service.

MR. BELYEA: Have you any idea of what other cities the Committee might visit this fall?

THE WITNESS: The Committee has probably seen more facets of air pollution than that, have they not?

I am thinking of Los Angeles. There is a complex problem, which has no influence on your problem at all.

I wonder if you should not start the smoke programme, and accentuate it as you go along. I think you have already ascertained what benefits we have here, and I hope we have given you something to think about.

Later on, when you need more information of greater complexity regarding air pollution generally, go to those other cities which have updated their programme

considerably.

BY MR. ELLIOTT:

Q. Have you found anything in regard to the pickling of steel in acids?

A. There is no reason why that should be a problem.

Q. The only problem we found has been water pollution from dumping acid solutions into the water stream.

A. We have that here today. They are trying to work out some additives, and have spent thousands and thousands of dollars. I think they want to floculate that. When speaking of air pollution, it gets tough enough.

Q. I do not think this Committee has anything to do with water at all.

A. We have a water pollution group, which could give you all the information you want in regard to that.

---Discussion re Tennessee Valley Authority, and Tennessee Copper, not reported, by direction of the Chairman.

MR. THOMAS (Oshawa): You made some remark about Federal injunctions?

MR. HEMEON: I was told a few months ago, by a man in the St.Joseph Light Company, that a report was made to this plant. I know nothing about it, other than that.

In the old days, -- and I judge 100 years ago -- a similar study of this air was made, and the water was calciumed. They were striving to see the SO_2 content. Originally, they were denuded areas.

MR. THOMAS (Oshawa): Now they are taking the sulphur and mixing it with other stuff, and making good fertilizer, and are selling more than copper.

HON. MR. KELLY: It would be interesting to know when that action was taken, and what was done in relation to that.

THE CHAIRMAN: Could you get some information on that, and drop Doctor Evis a line?

MR. HEMEON: Yes, I would be glad to.

THE CHAIRMAN: Could you find out what success they had, and how they did it?

MR. HEMEON: Yes.

HON. MR. KELLY: He is talking here about what is found on the ground. They had that in Sudbury thirty years ago. Then they built these stacks. This other thing took place apparently years before that. What have they here? We have one stack. What has been the result?

MR. HEMEON: I can tell you about sulphur dioxide in relation to smelting. The Trail Smelter case is a good example. You probably remember that?

I assume you have been there.

MR. THOMAS (Oshawa): No, but we would like to hear about it.

MR. HEMEON: In a nutshell, the amount of sulphur dioxide which comes from smelting here was enough to warrant putting a sulphuric acid plant. It is a "natural" in a superphosphate plant, because it uses a very large amount of sulphuric acid. That was done at Ducktown and Trail. When giving consideration with respect to the SO_2, do not blame the sulphur coming from the plant.

THE CHAIRMAN: They said they were making some sulphur, and selling it to the C.I.L., and they said, "We could get enough sulphur here in a few days to supply the needs of Canada for twenty-five years, so it is not economical to do anything about the sulphur.

Does that make sense to you?

MR. HEMEON: I cannot say. I think that should be asked of someone who knows the answer, and not depend too largely on the industry to give you that information. You should have independent knowledge.

On a question like that, when your law is inaugurated, you should not have to look to any organization, and have to go to them and say, "Tell me, are you disobeying the law, and is there something you

can do?", and, of course, the answer is "No".

DOCTOR EVIS (Secretary): In other words, you cannot trust the answer?

THE CHAIRMAN: The answer was rather a flabbergasting one. They said they could not make any money out of it, and so on, so they just left it there and it was destroying the crops.

MR. BELYEA: That is well established. Normally, they cannot use all they produce.

THE CHAIRMAN: It is the largest nickel operation in Canada.

DOCTOR EVIS (Secretary): If they made a fertilizer out of it, they could fertilize all the farms in the country.

THE CHAIRMAN: They put a stack up 650 feet high, and all it has done is to spread the pollution further around.

HON..MR. KELLY: You can see the smoke for about 150 miles.

MR. HEMEON: The only protection against living in an area of that kind is that with the high stack, as it comes down, it is more and more diluted. The quantity aspect is what is important. The question is not does it blow down to the ground, but what is the concentration of sulphur dioxide, and is it below the level of safety?

They had Professor Houston up there studying their operations at one time, and that is what led to their erecting this 650-foot stack.

THE CHAIRMAN: Would you like to go on, Mr. Hemeon?

THE WITNESS: We have talked about procedure and the State versus local control, and about the lungs, and the effect of smoke-controlled air, and have shown from the records how complicated the air pollution problem might be. We have also discussed SO_2. I guess that is about all.

You have almost "covered the waterfront".

MR. BELYEA: I would like to have you say something about the surveys you have made.

MR. HEMEON: That would be rather a long lecture. I am getting ready to write a paper on it.

DOCTOR EVIS (Secretary): I would like you to mention something about changing the colour of paint by hydrogen sulphide.

MR. HEMEON: That can be described easily. I will be glad to go into that other subject, if you want to give me the time.

Hydrogen sulphide is one substance which blackens paint. That does not mean to say you cannot go over the paint, but the action of hydrogen sulphide

is one which occurs frequently. It contains lead pigments, and this has been a troublesome problem around steel plants.

The third point is that in this year, 1956, and for the past ten years, there are no longer any lead pigments used, and they argued back and forth against the suggestion that non-lead paints be used.

The best way to control that is to educate people to use non-lead paint.

MR. BELYEA: Did you not have an incident in Cleveland where air pollution phenomena went down one street and took the paint off all the houses on one side of the street?

MR. HEMEON: No.

MR. BELYEA: One of the officials told me about that, but at that time we had not investigated it to find out exactly what it was, but they thought it was hydrogen sulphide.

MR. HEMEON: We developed hydrogen sulphide samples. Did you see them today?

DOCTOR EVIS (Secretary): No, we did not. What do you call what we saw this morning?

THE WITNESS: It has no name. It is the "nameless wonder".

THE CHAIRMAN: Perhaps, Mr. Hemeon, as time is

going on, and I doubt if there would be time this afternoon for a detailed explanation, I wonder if you would sort of generalize, and give your thoughts and views on whether or not there should be any exemptions under the State law, and if so, why.

We found out this morning you still have certain exemptions under the Pittsburgh smoke law, and we have certain exemptions in Ontario, and one of the things this Committee proposes to recommend is that there be no exemptions under the law.

How far should we go with that?

MR. HEMEON: Was not the first part of your question dealing with jurisdiction, State-wide versus local?

MR. THOMAS (Oshawa): That is something with which we could deal. We would like to hear you on that.

HON. MR. KELLY: Are you coming down to the question of the railroads being under the Federal government's jurisdiction?

THE CHAIRMAN: We are operating at State level, and we have exemptions at the present time.

MR. HEMEON: What do you mean by "exemptions"?

THE CHAIRMAN: Certain industries which do not come under the law. In other words, they can operate as they please, and are not under the law.

We will probably recommend that all industries in Ontario come under the law, as far as air pollution and smoke control is concerned.

We learned this morning you have certain exemptions here, and I will ask you this question, do you think that exemptions are necessary?

MR. HEMEON: That is rather a theoretical matter, and the obvious answer is, "No, there should not be any".

But what you are up against practically is whether you can correct air pollution by simply writing a law, and misleading the public into the belief that the mere writing of the law will clear up the atmosphere. Of course, the answer is, "No".

Then you have to know whether or not it is practical to accomplish certain things in a certain industry.

If the answer is "There is no doubt about it", then the next best thing to do, gentlemen, if you cannot do it in 1956, you will have to have it solved by 1966. That is one way of putting it.

The answer to the first question will take a great deal of study, hearing arguments, and doing a considerable amount of reading, before reaching a conclusion.

In the case of steam locomotives, the answer is pretty obviously "No". That was an unhappy situation before reaching the conclusion that it was practicable.

They groped around, primarily in Allegheny County, and came up with the idea that the problem be studied, and progress reported once a year. Then at the end of five years, a new law will be written.

Along about that time, a number of change-overs to diesels were made, and the whole problem solved itself.

MR. THOMAS (Oshawa): On the question of exemptions; who would govern it? Would it be a question as to whether or not they could afford it?

MR. HEMEON: No. It depends on whether an engineering analysis of the industries in the area leads you to the conclusion that there are certain ones for which there is no known solution.

Secondly -- and this is equally important -- you would have to anger the population sufficiently, that is, to secure recognition within the state of public opinion which has been suspended for ten years or more. I do not think there is any other locality in the country where the same state and public opinion prevails.

If you had that in Ontario, your standard of operations would have to be, of course, different.

Supposing you had some industry for which there was no known solution, and the people were angry about it, and they would say it was there years ago, and is here today, and will continue to be; you might well find yourself in the position of saying to that industry, "If you have not solved this problem in ten years, we do not want you", but the public would have to be awfully angry about the industry to enable you to "get away with it".

MR. THOMAS (Oshawa): In Los Angeles, the experts say that about 25 per cent. of the problem is caused by the incinerators, and the local Council there passed an ordinance to stop backyard incineration, as of the 1st of October, 1955, but there were pressure groups which exerted great pressure on the Council,which rescinded the ordinance, and extended it for a period of two years. Would you say those people were reasonably astute, or lacking in leadership?

MR. HEMEON: No, I think they are astute.

We had the same thing in 1945, when the smoke law of the city of Pittsburgh was instituted. The United Mine Workers had their "backs up"; the coal companies had their "backs up", the coal companies were resisting it. The Champion Company was a subsidiary of the Pittsburgh Coal Company, the big deveopers in the

area.

The railways were fighting it, and I am told that one of our leading citizens went out and said to a company he controls -- I do not know what percentage his control is -- and he said, "Boys, no more; get on with it".

There was discussion in the Legislature over it, and a certain Bill was lost in 1945. The people marshalled their forces against it. You can go as rapidly as public opinion will allow you to do, and they may defeat it. It may take ten years.

THE CHAIRMAN: I think the reason we have not been able to do a job with some industries and the railroads is just because of that. If we had taken that attitude after the war, and the government had said,"In ten years, clean this up" -- or in five years or three years -- "do something about it, or else" -- they probably would have done it.

But we have gone on thinking and talking about it, instead of setting a deadline .

I think when we exempted industries we have in Ontario today, if we had told them in three years, or five years, or the 1st of January, 1963, they would have to have the situation cleaned up, it would have been cleaned up, and that includes all industries, even the

International Nickel Company. I think that would have been done, if we had "laid it on the line". That would have given them plenty of time.

HON. MR. KELLY: I think the railroads are about the dirtiest things we have. Just look around a bit in the mornings, and you will see it is a "hell of a mess".

THE CHAIRMAN: I would not think that about Cochrane.

HON. MR. KELLY: Our main problems are pretty well paralleled down here. You have your railway yards down here. They showed us where they were cleaning them up. They have this apparatus, and they put in smoke stacks, and the smoke was just pouring out.

THE CHAIRMAN: Pittsburgh is much cleaner than Toronto today.

THE WITNESS: Did you not have a programme?

THE CHAIRMAN: Yes, but we had exemptions under the law, and they caused the trouble.

THE WITNESS: Exemptions per se should not be allowed.

THE CHAIRMAN: For instance, the brickyards and certain types of metal industries are exempted.

THE WITNESS: There is a way to get around that. We have the open hearth here, where there is no answer.

They were slow in going in and saying, "We cannot clean this up".

MR. HEMEON: That is not literally true. It was, until the top men in the steel industry in Allegheny County -- the President and the Chairman of the Board -- reached a point of saying, "Boys, the time has arrived; get to it".

THE WITNESS: On the open hearths?

MR. HEMEON: Yes.

THE WITNESS: Until recently they did not concede there was a way to clean it up.

MR. HEMEON: That is correct.

THE WITNESS: If they get into this research programme, they will spend a great deal of money.

THE CHAIRMAN: Have you any industry here for which you have not an answer?

MR. HEMEON: Air pollution can be controlled in any industry, at a price. It is the human opinion which enters into it; it is not the scientific opinion so much. It will go just so far, and then human opinion takes over. One side says it is unreasonable, and the other says it is not unreasonable.

HON. MR. KELLY: You mentioned this sulphur plant down here, and that they were able to manufacture sulphuric acid, and then were seeking a place for the

sulphuric acid, but rather than ship it and sell it, they decided to import rock phosphate and use it to make fertilizer, and sell that instead.

DOCTOR EVIS (Secretary): Out in Trail, British Columbia, that is part of their major income.

THE WITNESS: If you can get pure sulphur, you will have a good market for it.

MR. HEMEON: I understand that Inco uses it.

HON. MR. KELLY: They do, and they get enough in a few days to supply the needs of all Canada.

MR. HEMEON: Do they make sulphuric acid?

THE WITNESS: In the name of conservation , you have a good arrow in your bow to shoot now.

MR. HEMEON: Mr. Wurts would be the man to tell you about that. Five years ago, there was such an acute shortage of sulphur, that they took steps to screen the resources of the country to see what might come up. The coke oven plant was extracting coke oven gases, and the smelters played an important role.

I am at a complete loss to understand why at the time the International Nickel Company did not jump in, and instead of making sulphuric acid, sell the sulphur to the world which was creating a great demand for it.

MR. BELYEA: The demand caught them by surprise, and they were not prepared to do that.

DOCTOR EVIS (Secretary): They started producing sulphur in the Polynesian area.

THE WITNESS: Yes, they were in that business.

HON. MR. KELLY: I understand they extracted seventeen minerals there.

THE WITNESS: Was the plant an up-to-date modern plant?

HON. MR. KELLY: Oh, yes.

MR. HEMEON: You can make notes of these questions you have raised, and you have in your Ontario Research Council a man who can read that report, and then give you thoroughly authoritative answers to them.

HON. MR. KELLY: It would be interesting to know what could be done.

THE CHAIRMAN: I think these people should be brought down.

MR. BELYEA: You cannot get a quick and simple answer to it. It is a terrifically-complicated thing, and you would have to put some very expert people on it, and they would be occupied for a long time.

MR. HEMEON: You are speaking of the SO_2 control?

MR. BELYEA: Yes. They are recovering a fair amount, but it is going to acid for the paper plants, and there still is not the need to try and recover it all.

MR. HEMEON: After all, you are not talking about

the law which will allow everyone to go into air pollution, and make a profit from it. Do not take that as an authoritative statement, because I am not in a position to make one, but only to speak in generalities.

It may be that this plant, if it was forced to instal SO_2 control equipment, would lose money on it. The chances are it would. But it would not lose all the money. There are, in many instances, situations in Canada where the installation of air-pollution control equipment will produce, in money values.

THE CHAIRMAN: It is strictly a question of economics. It is a question of dollars and cents, with this outfit. It figures it can pay for the programme, and buy the equipment, and pay in cash money, and if it is handled carefully, what they pay out will be less than it would cost to instal the proper equipment.

MR. HEMEON: That is probably true, but it is a little beside the point. It would be my guess that the problem would be one of the least of your problems. It would be a less complicated problem than any of the others.

THE WITNESS: We have a reporter here, I see, who is making notes of what has been said, and I think that is quite in order, to have it printed, with possibly one exception, and that is in relation to the fact that

we have bandied a large number of names -- I know I mentioned several, and Mr. Hemeon has also -- in relation to our activities.

I see no reason for them remaining in the record, and I think it might be a matter of propriety if they were kept out of the record.

THE CHAIRMAN: I follow you on that.

THE WITNESS: We have described this particular situation, but I think the names perhaps should not appear in the record.

THE CHAIRMAN: I think we had better check that with our two experts, in regard to the gentlemen who have spoken to us today.

---Further discussion regarding the disclosure of names, not reported by direction of the Chairman.

---Whereupon a short recess was had.

---Upon resuming.

THE CHAIRMAN: Is there anything else about which any of you gentlemen want to talk?

THE WITNESS: Doctor Schenk has been engaged upstairs. There is nothing he would like better than to have you gentlemen up there to see the air-pollution laboratory. Mr. Hemeon was well prepared to tell about the methods which are being used, and Doctor Schenk has offered the invitation to Mr. Hemeon to take you up there

and show you the laboratory.

Perhaps you would like to see the smoke recorder they have up there.

MR. HEMEON: Actually, there is not much to see. It will not take more than five minutes.

THE CHAIRMAN: I think we have imposed upon you pretty well today. You have all done a really fine job, and it is getting well on into the afternoon, and I think we might just as well call it off, unless you have something further you want to say to us.

MR. HEMEON: You might as well see it, on the way out.

THE CHAIRMAN: Very well. We will be glad to do that.

---Whereupon a further recess was had, during which the members of the Committee visited the laboratory, under the direction of Doctor Schenk.

---The witness retired.

- - - -

---Whereupon at 3:45 o'clock p.m., the further proceedings of this Committee adjourned until Wednesday, June 13th, 1956, to reconvene in the office of Doctor Sumner Ely, in the city of Pittsburgh, Pennsylvania.

- - - - -

ONTARIO

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION, IN ONTARIO.

Mr. A. H. Cowling, Chairman,
Presiding.

Dr. F. A. Evis, Secretary.

- - - -

VOLUME XXVI

Wednesday, June 13, 1956.

Pittsburgh, Pa.

- - - -

R. C. Sturgeon,
Official Reporter,
Parliament Buildings,
Toronto, Ontario.

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE, TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION IN ONTARIO.

Mr. A. H. Cowling, Chairman,
Presiding.

Dr. Fred Evis, Secretary.

- - - -

I N D E X

Twenty-sixth Day, Pittsburgh, June 13th, 1956

Morning Session

Luncheon

Afternoon Session

- - - - -

TWENTY-SIXTH DAY

Pittsburgh, Pa.,
Wednesday, June 13th, 1956,
9:30 o'clock, a.m.

- - - -

The further proceedings of this Committee reconvened pursuant to adjournment.

Mr. A. H. Cowling, Chairman,
Presiding.

- - - -

PRESENT:

Messrs. Murdoch,

Morningstar,

Elliott,

Gordon,

Thomas (Oshawa),

Dr. Fred A. Evis, Secretary.

APPEARANCES:

Mr. Harry Belyea,	Hygiene Engineer, Department of Health, Ontario.
Dr. I. Hope Alexander,	Director, Department of Public Health, City of Pittsburgh.
Dr. Sumner B. Ely	Superintendent, Bureau of Smoke Prevention.

- - - - -

DOCTOR ELY: I might say, Doctor Alexander, that these gentlemen are from the province of Ontario, and are members of the Ontario Legislative Assembly, and they wanted to come here and see what they can do in regard to smoke ordinances in Ontario, and I suppose they want to know something about what we are doing.

THE CHAIRMAN: Everybody tells us that Pittsburgh is a shining example of what can be done.

DOCTOR ELY: If you are all here, I had better tell you a little bit, first about the history of the thing, because that is interesting, and has a good deal to do with the way the smoke ordinance went in.

I think you saw some pictures yesterday, but they did not adequately show you, but gave you rather a false impression of how this matter started.

In 1939, -- that is twenty-five years ago or more -- there was not anything in the United States in the way of a Smoke Bureau. People took it for granted that smoke was part of nature, and part of the economy of the cities. Why they did that, I do not know.

For hundreds of years, people had sporadically tried to clear up the smoke, but it did not amount to anything, and it did not go.

However, in 1939, the city of St. Louis had some very bad smogs, and they got so bad that finally

the Mayor called the Commission, and passed an ordinance which had teeth in it, and it stuck.

That was given to their Commissioner at the time, Doctor Tupper, and he put it through, and made quite a success of it.

Doctor Alexander was interested in that, and he wanted to know what happened in St. Louis, so he went there, taking a couple of newspaper men with him, and I think it would be interesting if he gave you a statement of how he got these men, and I think that would be illuminating to you gentlemen here.

DOCTOR ALEXANDER: Mr. Chairman and gentlemen; I am delighted to welcome you to Pittsburgh. You are interested in a subject which has been very close to my heart for a good many years.

Ontario is not new to me at all, as I make two trips to Ontario every year fishing.

The story of how this thing was accomplished is rather interesting. Our political leaders in the city of Pittsburgh were very much concerned about this question of smoke prevention. They were afraid of it; they were afraid of the unions, and were afraid of actually getting in on it.

I decided there was a way to solve this thing, so I made up my mind to go to St. Louis, and take a

couple of newspaper men with me. This is very interesting to me. I do not think, perhaps, it can be used in Ontario in the same way.

We had one newspaper here, the Pittsburgh Press, which carried a great number of articles on the smoke problem in St. Louis, so the people were kept fairly well informed.

There had been no crystalization of opinion here as to what Pittsburgh should do, so I decided, as I said, to go to St. Louis. I knew that my going down to St. Louis would do very little, if anything, but if I had a couple of good newspaper men to write the stories, I thought the problem might be solved. So I called Mr. Keller, of the Pittsburgh Post-Gazette, and asked for a man to go down. He gave me many reasons why he would not and could not, and we argued pro and con for a long while, but I was not making any headway.

I told him I was very disappointed that the morning paper would not co-operate with me, that this was a big problem in Pittsburgh at the time, and they owed it to themselves to assist us.

I added the misinformation that the Pittsburgh Press was sending a man down to write the story, and I wanted the morning paper to do the same thing. Mr. Keller was not going to allow the Press to make a scoop,

and he gave me a man.

I then called Mr. Leach, who had been active here, and told him I needed a man, and he gave me the same line of talk that Mr. Keller had given, and he was not giving me anybody, either.

I argued with him, and even added the rider that the morning paper was giving me a writer to go along, and he decided he would not allow the morning paper to get a scoop. I guess perhaps it was due to a little lying that I succeeded in getting two men to go to St.Louis.

I said nothing to the Mayor, nor the Council. Usually, they o.k. my expenses when making an official trip, but I was afraid they would turn me down, so I paid my own expenses and sneaked out before they knew I was going.

We stayed a week, and carried on the publicity, and we came back to Pittsburgh with all the information we could get, good, bad or indifferent, and even went to one of the meetings of the Mine Union of Southern Illinois. St. Louis gets all its coal from southern Illinois, and we talked it over with them.

So, when we came back to Pittsburgh, Pittsburgh had the information and was well on its way in regard to this programme for eliminating smoke. So at that time, we considered a good time for adopting a programme which

would eliminate smoke, if we tried to do it. The people of Pittsburgh wanted it done, and they knew it could be done.

The Mayor immediately appointed a committee to study the problem. I think, Doctor Ely, you were on the original committee?

DOCTOR ELY: Yes, that is correct.

DOCTOR ALEXANDER: We created a demand on the part of the public to clean this up, and we have done a magnificent job. I think the two cities have done the best job possible, that is, Pittsburgh and St. Louis.

In both cities, the man in charge of the smoke elimination has been given a free hand.

When the ordinance was set up, and we decided to prepare for putting it into force, Doctor Ely, who had been with Tech. here for so many years, came with us, to head up the Bureau. The Professor had no experience in politics at all. He was really a "babe in the woods", and he has not learned anything about it yet, either. However, he was given full control.

This city, as you know, is under Democratic Party administration, and in selecting the inspectors, there were three Republicans picked out. That was a terrible thing to do in the Pittsburgh administration, but three Republicans were appointed, -- and they have made

good Democrats out of them since -- and the programme got under way. It has been a big job.

It is not a difficult job, except for size, and I see no reason in the world why any city which desires to, cannot clean up the city as well as Pittsburgh, and any of you who have been here during the past years, can see the changes today, which have taken place. I am more familiar with Toronto than with any other Ontario city. I think you have a very beautiful city. I have never noticed your smoke problem to be as great as it was in Pittsburgh, but you have a problem there, and with your tremendous development, I would think you gentlemen could make a great contribution by putting into operation a programme which is going to eliminate the smoke from your city.

The two problems in this development which I would certainly recommend to you are:

(1) That you put into operation a smoke prevention programme or in connection with any other problem, and,

(2) Something about which I do not know whether you have given any thought, that is, the co-ordination of all bodies.

I will not take up a great deal of your time today, in speaking. I merely wanted to meet you.

gentlemen, and get this information over to you.

I have only a medical background; I am not an engineer, but I have great difficulty in keeping quiet when some question comes up about smoke prevention.

I just heard enough this morning to make myself curious, and I hope while you are here, if we do not show you the things you want to see, you will let us know, and we will do everything we can to make your trip here worth while.

Perhaps that is all the time I should take in speaking to you, but I do thank you for the opportunity of meeting you.

DOCTOR ELY: The conditions in Pittsburgh were very bad. We had visibility of something like 100 feet, and had smogs three or four days a week, and it was too bad to see women going along with handkerchiefs over their mouths to prevent breathing the polluted air, and to see the cars with their lights on. Why we should have hundreds of people who did not know anything about smog until 1939, when St. Louis started its programme, I do not know. I suppose it was like prohibition; when you "put something over" on the public, which the people do not want, they will not "go for it". In any event, the people were not interested.

I have had people -- and not those who did not

know what they were talking about, but engineers -- say to me that it was theoretically impossible to clear up the smoke here; it could not be done, that the particles in the atmosphere here were so small that when the temperature layers appear, the vapour had to condense on something and it condensed on those particles, and formed what we considered to be the nuclei They said, "You cannot do away with these particles, and it is theoretically impossible to clean up the city".

That was very discouraging, but I never could get out of my head the fact that if you went out to a little town where there is no manufacturing -- nothing at all -- you will find they have fogs, because the condensation comes, and these nuclei will absorb, and you will get fog, but it will be clean fog, more or less like an ocean fog.

That is the way it has worked. Fogs of that kind, of course, will dissipate after a very short time, but it was a very discouraging. The fact was we came to the conclusion that the chief devil in the fog were the carbons because the carbons are black.

In the olden days, if you got a smudge on your face, you would never take your finger to rub it off, you had to blot it off, and so we thought if we could get rid of the carbon particles, we could do something,

and that is the way it has worked out.

We have taken care of the carbon part, and the smoke. There are many other particles in the air, but they do not cause the smoke and dirt trouble. That was the fundamental start of the thing, and we carried out that idea.

I have a notation here reading "Put in ordinance". Our ordinance is so drawn that it requires that everybody do one of two things. In burning a fire, they must either have some kind of apparatus, stokers, or some other device, to give perfect combustion.

If they do not do that, the other thing is they have to use smokeless fuel, which burns quickly, or processed fuel or oil, or gas, or something of that kind.

Those are the two main conditions of the ordinance; they must either use smokeless fuel, or a device for burning.

In the ordinance, we also include beside smoke, fumes, odours, gases, and so forth. And there are many ways to try to chase those out.

The ordinance then went through, and when it was put into effect, the matter came up concerning inspectors.

If a man goes out and sees smoke coming out of a stack, he goes to the man and suggests to him that he

stop the smoke. The man will almost invariably say, "I will be glad to stop it, but you tell me how to stop it". So it comes down to the question of whether an inspector should be a combustion engineer.

You may have noticed there is a high stack here about 250 feet high belonging to one of our big power companies, just in back of one of our big stores.

The other day we sent a man down. They have a powdered coal installation with 6,000 horsepower, and he told them to put some combustion air under the fire. Instead of putting the air in, they shut it off. Of course, a great deal of black smoke went up, and I do not think it was fifteen minutes after that before we had received half a dozen calls saying, "What is the matter with that stack?".

I am giving you that to show you that everybody in Pittsburgh is a smoke inspector today.

When we started, the miners were against it. They did not want to get rid of the smoke; they thought it would affect their wages. The railroads did not want it, because they carried the coal by freight. The steel company did not want it, and of course the dealers in coal did not want it. So we had to contend against all these things. How did we get around it? By getting the people with us. As I say, everybody in

Pittsburgh is pretty much smoke conscious, and is an incipient inspector.

We have a very strong body here called the United Smoke Council, and in the early days they went out and gave talks to women's clubs, and men's gatherings, and gave radio talks, wrote articles, and with their help, we succeeded in getting the public behind us. That is the secret of it. If we had not done that, we could not have put the thing through.

Secondly, if you were to ask me what technically was the important thing with it -- I am not speaking of co-operation, but a technical matter -- I would say it was the improvement in combustion, and getting better combustion, and our inspectors tried to impress that on the people. If you cut down the amount of waste, and get better combustion, you will decrease the amount of dust, and so forth, and will change the ash relation and get rid of a great deal of dust and so on. That, technically, is the real important thing -- from a technical point of view.

I could speak to you for some time, but we have to get through here, and I want to show you a little experiment. I am going to burn a piece of paper, to show you what is meant by "combustion", and the possible saving of it, and so forth.

DOCTOR EVIS (Secretary): Mr. Gordon is particularly interested in fluorination. When did you start that?

DOCTOR ALEXANDER: Three years ago.

DOCTOR EVIS (Secretary): Just three years ago?

DOCTOR ALEXANDER: Yes.

DOCTOR ELY: I will roll this (indicating) into the form of a cornucopia, in this manner, and will put a rubber on it to hold it together.

I will then burn this paper, and I will show you what I am going to do so you can follow it. I am going to light this end of the paper (indicating), and you will see coming up there a yellow flame, but there will be no smoke. The reason there is no smoke there is because there is plenty of air around it, so that everything is burned up, the carbon, and so forth, does not make smoke.

While that is burning, by turning it into that position (indicating), so that a draft of hot air comes up, smoke will come out here (indicating).

The reason that smoke comes out here (indicating) is because this air is choked, and you cannot get enough air in there, and when it lacks air, you will get smoke.

I will light this end (indicating) first, and

you will see that is so. There is no smoke, but if I turn it in this position (indicating), you will find some white smoke coming up here (indicating).

If it was coal, of course, it would be black, but being paper, it is white. That is incomplete combustion, and all I have to do is to light this (indicating); in other words, it is only half burned, because I choked the air in there (indicating) and, therefore, we are lessening the combustion.

MR. THOMAS (Oshawa): Professor Ely, I was wondering if the outlet of the other end was enlarged, would you have that same condition?

DOCTOR ELY: Yes --

MR. THOMAS (Oshawa): If it was enlarged?

DOCTOR ELY: Yes. The people who used that around the city, had cans as big as that (indicating), and they could use any size they wished.

If I could get a lighted swab and walk around on the top of some of these houses, I suppose I could light up this here (indicating).

With your permission, I have one or two slides I would like to show you at this time.

SLIDE I

DOCTOR ELY: If you burn a pound of carbon, or a pound of coal, and it burns completely, so that

it burns to a carbon dioxide -- CO_2 -- it will produce pretty close to 12,000 B.T.U.'s, but if you only take off the air, so it does not burn completely, it only burns to CO, and you only get roughly about one-third, 4,000 or 5,000 B.T.U.'s, therefore the loss in it is almost two-thirds, and that is about a 66 per cent. deficiency, so you can see the loss there.

Pittsburgh did, at that time, burn about 7 million tons of coal a year, so instead of saying we could save 50 per cent. or 60 per cent., we could not do that, because the fires do not burn evenly, but if you could come down to earth, instead of saving this great big figure, you only saved 5 per cent., if you multiply that out, you have 350,000 tons saved per year.

That may not mean much to you as a figure, but if you take a freight car which holds about 50 tons, you will see that there would be about 35,000 carloads of coal saved in a year.

In other words, the miners would have to mine the coal to produce that, which means that about 200 miners would be working all the time.

Furthermore, of course you then have the situation where you would be releasing cars to the railroads, which have been very short of cars. There would be roughly 250 cars saved by saving 5 per cent. of the

coal.

Then, of course, there is the value of the coal, which would amount to about $2 million.

So I am trying to show you, however roughly it is, to give you some idea of the economics of the situation. In other words, there is a great saving in this, and that is what we were trying to put to the people, and if you can get people to think that they will save money, your job is done. They will save it. You can be assured of that.

We all know about the stoker waste. Stokers, of course, are not yet as efficient as they might be, and you are liable to get dust and fly ash, so we have to watch them a little more closely.

SLIDE II

Now, after all the gas has come through the stack, it is put through a washer. This (indicating) is the water washer. The gas, smoke and so forth, come in here (indicating), it goes up straight there (indicating), and out.

These (indicating) are the doors for the cleaning.

Here (indicating) is the water spray, and that water spray comes down very hard, and drops on solid matter, the dust, cinders, and so forth.

That is the type of thing which is used today.

It is not good for certain things. It works better on the larger particles. If the particles are small, they do not work so well. But, nevertheless, for certain things, it will work, and we use quite a number of these ourselves.

SLIDE III

Here (indicating) is one which does not use water. It is dry. That is what is called a "cyclone". Gas, smoke, and so forth, come in here (indicating). Here (indicating) are the veins in there, which makes it swirl around, a centrifugal force which throws the particles to the outside, and then they fall down, and are taken out at the bottom.

The gas comes down here (indicating), and it will go up again through the centre, where there are no particles, and go out of this pipe (indicating), and it is working quite well. It has an efficiency of from 80 per cent. to 90 per cent. of particles. Our ordinance says we must not have more than 3/10ths of a grain per cubic foot, coming out of the stack.

SLIDE IV

This (indicating) is an electronic precipitator, and will pick up the smallest particles. In fact, if

these particles are very small, you will have to go to something else to get them out. The gases come down and go up through the tubes. There is a wire net there.

One of these tubes which is carrying electricity acts like an electrical field. The particles which stick to the inside of these tubes and the gases, will go up through the tubes, and they are stuck there. So we have little hammers, which are not shown here, and those hammers will bring down dust here (indicating), and go up here (indicating). It is the most efficient thing we can get.

The trouble is that the cost is very high, indeed. For instance, we have the 250-ton furnace over here (indicating) -- the reason the cost is so high is because it is electric, and in order to work right, has to have about 50,000 or 60,000 volts in it, and that makes an expensive electrical plant, but you have to have that to get the right current you want -- the right voltage.

In the open hearth furnace, it looks very, very fine, and looks heavy, because it comes up as a reddish cloud, and you have to have something of this kind.

With a furnace of 250 tons, there is a certain

amount taken off, but it will still be 250 tons, and you will have to pay something like $400,000 for one installation.

The largest installation which was ever made, of which I know, is in one of the big plants of the United States Steel plant at South Philadelphia. They had nine furances, and they put two of these on each furance at a cost of $400,000 each, so for eighteen of these, you can see that the cost becomes prohibitive. That has been the trouble.

So, of late, we have been trying a great many experiments, to try and do something else, and one which we now know of lets the gases go through slag wool, which is obtained from blast furnaces, and that will absorb a great amount of dust -- practically all of it.

The slag is moving all the time, and is thrown away.

So, if we can get that scheme to working, it will cost one-half, or less, than this idea (indicating), and that is what we are working on today.

- - - -

MR. BELYEA: Have you any reason to believe the slag wool method will work out at one-half the price?

Is it going to work out at less than the cost of the electric precipitator?

DOCTOR ELY: At the present time, they have been building a small plant at the Bethlehem Steel Company in New Jersey. That has reached the point where we are waiting to receive the report. We have not received it as yet. Jones and Laughlin, the big steel company here, is very much interested. We have not the report as yet.

If the report is satisfactory, we will put one of these things on one of the big furnaces here to see how it works.

There may have to be some changes because that is the first furnace of that kind. It acts on a movable belt underneath the stack, and the belt -- it is a link belt -- goes through the slag. That is the condition today, as far as that thing goes.

I might say one other thing here, and that is about health. Doctor Alexander knows more about that than I do.

I do not think there is any proof today -- absolute proof -- that smoke is detrimental to health. You cannot prove it. It is a great nuisance -- sure. There are a number of objects, dirt and grime in it, coming down, but as for absolute proof, I do not think

we have it.

Doctor Haythorne, at the Allegheny General Hospital, has made autopsies on some 2,500 lungs of people who had died, and he made some statements, one of which was that the carbon particles in the lungs did no harm. I do not know whether a film forms around it, or what it is. Nobody knows. Anyway, that was the statement.

He also made another statement, and that was to the effect that the if particles in the air did do damage to the lungs, it would have to be between one and ten microns. A micron is 1/25,000ths of an inch; 40 microns is just about the limit of the size you can just about see. Less than that, it becomes microscopic. So they are very small particles.

Another statement was that the weight of the particles had nothing to do with it. It was entirely a chemical action in the lungs. I think those were his conclusions. If you will pull out the blue paper in the envelope, that is the 1955 report, and I will ask you to turn to page 7, and you will see we have in Pittsburgh twelve different areas where there are tin cans collecting dust. Every month, these tin cans are taken down by inspectors, and the stuff caught in them is weighed. There is extraneous matter besides

dust which is caught. There will be a method there for estimating even seeds of tobacco, and so forth.

On the page after that, you will see the details of each of these twelve sections, and the weight which was caught in there. That weight has been plotted, and is shown here.

We took the weight and analyzed it for all volatile matter. That is the part of the coal which will burn, also the ash. The more ash, the better it is for the city, because everything is burned up.

The fixed carbon left in there also gives you an idea of the efficiency. So you can see the carbon graph, which is up here (indicating), is in that shape (indicating), and it has sort of a curve upwards. And the ash curve goes up. These curves are the best ones to work with.

We took the highest point here (indicating), and plotted it against the position of these cans, so we know the dirt in each area, as will be seen if you will turn two pages over. These (indicating) are the cans, and show the locations where they are.

Here (indicating) is the pneumonia rate in that particular section. You would think that the greater the dirt, the greater the pneumonia would be. It just does not work out that way at all. Here

(indicating) is the dirtiest one, and the incidence of pneumonia is very small there. So, apparently, there is no relation between the two.

When you come to think of it, that is about right. What causes pneumonia? Maybe the coloured population is more susceptible; it may be the diet; it may be what one eats; it may be many, many things, which enter into these economic studies, in an endeavour to decide the cause.

So this (indicating) has shown that the one item of dust is not strong enough to influence the amount of pneumonia in that particular section. I do not know of any other city which ever did that. But it is pneumonia; it does not show anything but that.

Have you anything to say on the health question, Doctor Alexander?

DOCTOR ALEXANDER: No. I do not think we can show any definite tie-in, between health and air pollution.

MR. BELYEA: Did you watch particularly for lung cancer?

DOCTOR ALEXANDER: We made a study about nine years ago for the Public Health Service. Pittsburgh was one of the cities selected. This was before we started to clean up Pittsburgh, and it had one of the lowest rates of pulmonary cancer of any of the large

cities.

MR. BELYEA: Have you not found there is increased cancer in the oily industries, like a gas plant? Some of them have found that out.

DOCTOR ALEXANDER: We have not broken it down that way. We know in the last ten years that lung cancer has increased close to 300 per cent.in Pittsburgh. We could argue that as we cut down the amount of air pollution, there is an increase in cancer, but that is not the explanation.

MR. BELYEA: So much could have been done before that it might be a different type of thing in the air.

DOCTOR ALEXANDER: It comes from different causes, probably.

DOCTOR EVIS (Secretary): Did not the Public Health Service, back in the early 30's, Doctor Alexander, do a comparison of seven or eight cities, which showed that the extent of bronchitis was greater in the dirtiest cities, and decreased in the cleaner cities?

DOCTOR ALEXANDER: That is quite true. We made a study here many years ago in connection with the Smoke Council of Toledo, and it showed very definitely that in the highly-industrialized cities, they had an increase in the pneumonia rate, and a decrease in the

tuberculosis rate. Whether that was coincidental or not, I am not sure.

But we know now that the rate of pneumonia in Pittsburgh, and every other city, has decreased tremendously, and I do not think it is due to the fact that we have cleaned up the atmosphere, because in Pittsburgh, if anybody gets a common cold--and as we know, most of the pneumonia comes from common colds--and the people go to a doctor and get a"shot"of penicillin, and if they had a pneumococous infection, the penicillin would stop it. That has been cleared up all around.

MR. BELYEA: Back to lung cancer again: might the increase be explained by the fact that they are watching for it more than they used to?

DOCTOR ALEXANDER: I do not think that is true. I do not think many people die of lung cancer, with the diagnoses we made before they died.

DOCTOR ELY: Is there anything I can answer about the ordinance?

MR. MURDOCH: In the preparation of the ordinance, how much assistance did you receive from the State, that is, when the city drew up the ordinance, regulations and so forth?

DOCTOR ELY: You mean when the City Commission drew up the ordinance?

MR. MURDOCH: Yes.

DOCTOR ELY: Doctor Alexander was on that Commission, and knows about it. That committee was appointed by our Mayor.

DOCTOR ALEXANDER: It was all done by local experts. We had plenty of them here, and we did not draw on any one in particular.

We had some counsel from Tucker of St. Louis, but most of the engineering work was prepared by our own people, here in the city.

THE CHAIRMAN: What Mr. Murdoch is getting at is that our Committee is at the provincial level, and he wanted to know if there was any tie-in by way of assistance in money or anything else from the State.

DOCTOR ALEXANDER: No, there was no tie-in with the State. St. Louis was the first city to start it, and Pittsburgh was the second.

There has been some talk of setting up state-wide regulations in connection with smoke. I think Professor Ely does not approve of that, because when you set up state-wide regulations, you can only set the minimum requirements, whereas Professor Ely believes you should set up the ordinance, dealing with your local conditions as you find them, and not make it state-wide.

There is a great deal of difference between

the county ordinance, which has been in effect several years less than ours. Ours is very much more strict than the county ordinance. We believe it should be on a local level. I do not think it would work well in the province of Ontario, such as your milk regulations work, which are the most successful in the world.

DOCTOR ELY: It is said that a city of 25,000 population or less has no smoke or air-pollution problem, the idea being that the waste which will have to go up into the atmosphere, and go to the upper regions, and the amount of such air would be considerably less in the smaller cities. It might be it is because you might not have so many plants in the smaller areas.

We have 5,500 square miles, and the density of population is about 13,000 per mile. We have to get rid of the smoke, or whatever it is, for that number of people.

In the county they have some 3,000 square miles, and the density there is about 500 or 600 per square mile, which is a very different proposition. I think there are places where they are very much higher.

I do not want to hurry you gentlemen, but we have two plants we would like to show you before luncheon, if we can. One of the plants is the incinerator, and then the question of burning insulation

off of copper. If it is burned too long, it will spoil the copper, so the thing must be controlled right to get rid of the outside insulation.

MR. BELYEA: What temperature will spoil the copper?

DOCTOR ELY: 750 degrees would burn the copper.

MR. BELYEA: That is Centigrade?

DOCTOR ELY: No, Fahrenheit. We felt that by going up to 1,300 or 1,400, it would vaporize the organic matter and stop the smell. That is not an ordinary little incinerator which goes into a house. It is another thing altogether. They do not give any trouble.

We are speaking of big ones which go into hospitals and things like that, where they dump a great many things into the top of the incinerators, and they catch on fire, and there is trouble.

THE CHAIRMAN: On behalf of the Committee, I would like to thank you, Doctor Alexander and Doctor Ely, for the very informative session we have had with you this morning. We have found it very interesting.

If there is nothing further at the moment, we will adjourn for luncheon, which will be held at Hotel William Penn, at twelve-thirty.

---At 11:55 a.m., the further proceedings of this Committee adjourned to reconvene at luncheon at 12:30 o'clock, p.m.

- - - - -

P R O C E E D I N G S

at the

LUNCHEON TENDERED TO THE COMMITTEE BY THE ALLEGHENY CONFERENCE, HELD IN THE HOTEL WILLIAM PENN, PITTSBURGH, PENNSYLVANIA, WEDNESDAY, JUNE 13TH, 1956, AT 12:30 O'CLOCK, P.M.

- - - -

Mr. C. A. Bishop, Toastmaster, Presiding.

Mr. A. H. Cowling, Chairman.

- - - - -

PRESENT:

Messrs. Murdoch,

Morningstar.

Elliott,

Gordon,

Thomas (Oshawa),

Dr. Fred Evis (Secretary).

- - - - -

APPEARANCES:

Mr. Harry Belyea,	Hygiene Engineer, Department of Health, Ontario.
Dr. I. Hope Alexander,	Director, Department Public Health, City of Pittsburgh.

Dr. Sumner B. Ely,	Superintendent, Bureau of Smoke Prevention.
C. A. Bishop,	U.S. Steel Corp.
Bill Crawford,	U. S. Steel Corp.
John J. Grove	Allegheny Conference.
Clarence G. Reid,	Allegheny Conference.
Perry Everstine	Railway Supply Mnfrs.
Emerson Venable,	Consultant.
John F. Donahue,	Investments.
Ernest C. Jones,	Bureau of Smoke Prevention.
A. Bergamasco,	"
J. M. Connell	"
J. J. Connelly	"
J. C. Terhorst	"
A. L. Wolk	Judge, United Smoke Council.
L. L. Jayda,	Pittsburgh Bacharact Ind. Instrument Co.
Jos. Bochenti,	"
Mr. Morrison,	
Mr. Martin	Smoke Inspector, Pittsburgh.

- - - - -

Pittsburgh, Pa.,
Wednesday, June 13th, 1956,
12:30 o'clock, p.m.

THE TOASTMASTER: Gentlemen, I would like to

welcome you to our luncheon, and I appreciate the honour of being the Toastmaster of the proceedings this noon.

The local people might introduce themselves, so you will know whom you are meeting.

My name is Bishop, from the United States Steel Corporation, across the street; also Chairman of the Air and Stream Pollution Committee, and working on problems all across the United States, wherever we have complaints, and we try to be good neighbours, and are endeavouring to establish uniform policies throughout the country.

MR. BOCHENTI: My name is "Joe" Bochenti, of the Industrial Instrument Company. We manufacture instruments for detecting smoke, as well as carbon monoxide and carbon dioxide.

HIS HONOUR JUDGE WOLK: For eighteen years, I was a member of the City Council, and I happened to be on the Council when we started this smoke control programme, and know a little bit about it.

MR. GROVE: I am John Grove, of the Allegheny Conference on Community Development, which is acting upon this well-recognized programme in Pittsburgh, and of course, is vitally interested in the programme in

Allegheny County.

MR. CRAWFORD: I am "Bill" Crawford, of the United States Steel, and a member of the Smoke Council, and also of the Allegheny Conference.

MR. EVERSTINE: I am a member of the Railway Steel Company.

MR. MORRISON: Mr. Everstine forgot to say he was President of the Citizens' Club.

MR. DONAHUE: I am "Jack" Donahue, and am in the investment business.

MR. MARTIN: I am Mr. Martin, Smoke Inspector for the city of Pittsburgh.

MR. JONES: I am Mr. Jones, of the Smoke Bureau of the city of Pittsburgh.

MR. CONNELL: I am Mr. Connell, with the Smoke Bureau, of the city of Pittsburgh.

MR. CONNELLY: I am also with the Smoke Bureau of the city of Pittsburgh. My name is Connelly.

MR. TERHORST: I am Mr. Terhorst of the Smoke Bureau of the city of Pittsburgh.

THE TOASTMASTER: Unfortunately, Dr. Graham Netting is not with us. He is in Harrisburg, on some recreational matters.

He comes from out in the Carnegie district.

THE CHAIRMAN: Perhaps you would like to meet

the members of our group. It is my pleasure to be the Chairman of this Committee, and for the benefit of our hosts, may I say that ours is a Select Committee of the Ontario Legislature, comprising all Parties in the House, which would compare to your State Legislature.

We have three political Parties represented in our group, and we are all getting along fine, because this smoke control and air pollution problem transcends all Party lines.

We are pleased to be with you, and we have learned a great deal in our visit here. Wherever we have gone, people have said, "You must see Pittsburgh", and now we are here, and have been receiving a great deal of information and advice from you people.

The first one of our members is "Bill" Murdoch, the member for Essex South, and also the Conservative Whip in our Legislature, that is, the Whip of the Conservative majority in the House.

Then Mr. Ellis Morningstar, one of the largest members in our Parliament, who represents the riding of Welland.

Next to him is George Gordon, the member for Brantford. Mr. Gordon happens to be one of our Opposition members, but is really a good fellow.

MR. GORDON: A member of Her Majesty's Loyal

Opposition.

THE CHAIRMAN: Sitting beside Mr. Gordon is "Tommy" Thomas, the member for Oshawa, and he forms part of the second Opposition group.

Next to him is Dr. Fred Evis, the Executive Assistant to the hon. Minister of Health of the province of Ontario, and also the Secretary of the Committee.

Then Mr. Harry Belyea, is our Consulting Engineer, and provides us with technical information, so if there are any technical experts amongst this group, they may get Harry Belyea into a corner and the information can be relayed to us, as laymen.

Next to Mr. Belyea is Mr. Robert Elliott, the member for Hamilton East. Hamilton is the steel city of Ontario. He happens to be sitting on the right side of the fence.

Next to Mr. Elliott is our official reporter, who will take down everything that is said, so if you do not want anything to appear on the record, just give him the signal, and it will be deleted.

MR. CONNELLY: You can put this on the record; these gentlemen came down here in regard to smoke control, but may I tell you there is nothing gives me greater pleasure than to go to Ontario, and to the Muskoka Lake district, to enjoy a summer's vacation.

THE CHAIRMAN: We do not have much of a smoke problem there.

THE TOASTMASTER: Gentlemen, I think we had better get on with the afternoon's programme. It is already twenty-five minutes after one, and I know a number of you have busy schedules for this afternoon.

I think it might be interesting to give a brief history of our organization, the United Smoke Council.

Some of those who could do a good job are not here. You have hit us in the summer season, and like any organization, vacations extend from two weeks to a month, and you will find quite a few of them are away on holidays at the moment.

I will ask Mr. Grove, of the Allegheny Conference, to give a brief history of the organization, to show where the organization fits into the Pittsburgh story.

Before Mr. Grove speaks, I think Mr. Clarence Reid, has an announcement he would like to make.

MR. REID: We meet very informally, gentlemen, and each of us pays our own bill. If you do not object, the waiter will now go around and collect, as we proceed.

MR. GROVE: The United Smoke Council has

been a citizens' organization concerned with smoke both in Pittsburgh and Allegheny County, from the very beginning.

Like any effective programme, you must have public support and it has been this group which has given the required impetus in the city and county,to secure the necessary public support to put this programme over.

The United Smoke Council has worked very closely with organizations in our community which have been behind this over-all re-development programme.

In the past, when Mayor Lawrence and the City Council were putting into effect the provisions of the smoke ordinance, it was the United Smoke Council which helped by means of education, and promoting publicity and exhibiting movies around the area, showing the benefit of smoke control.

It has always been one of our greatest efforts in these communities to advance our air pollution programme. In 1941, the ordinance in the city of Pittsburgh was passed, and then World War II came along, and the enforcement provisions were postponed until after the war.

In 1946, under the leadership of Mayor Lawrence and Judge Wolk -- who was at that time a Councilman,-- the provisions were applied as to railroads and industries

and households, with the exception of one or two temporary dwellings. We gave them a year to put these provisions into effect.

Then, in 1947, the one or two dwellings in Pittsburgh came under the provisions. Under Doctor Ely, the Smoke Inspectors are doing a Herculean job in getting householders to abide by the ordinance. Naturally, at the beginning, it was a difficult job, because many householders were unfamiliar with the method of firing the various smokeless and solid fuels which were used.

The United Smoke Council played a very important part in drafting, and getting through Harrisburg, the legislative effects of the Act.

We recognized it was not sufficient to have an effective programme within the city limits, because the Pittsburgh area consists of all Allegheny County, which is made up of 129 independent municipalities, and the Council realized that smoke knows no boundaries, therefore, it was essential to our operations, that the Board of Smoke Commissioners also have a State programme.

In 1948, the law was amended to permit the County Commissioners to control smoke from all sources. Prior to that time, smoke from railroads was eliminated. You gentlemen from Ontario can appreciate how ineffective

such a programme would be.

So, in 1949, at the meeting of the Republican and Democratic delegates from the county, the United Smoke Council and other civic groups, a recommendation was made that the law be amended to provide for the control of smoke from all sources.

Then, in 1949, the Board of County Commissioners passed the county-wide ordinance, setting up the enforcement principles, based on the city ordinance. These first applied to industry and railroads, and a year later, to householders.

In addition to that, the United Smoke Council has worked continuously to advance this programme. We recognized that while we have a tremendous job in the elimination of smoke from bituminous coal, there are other problems here, particularly the pollution from the open hearth and Bessemer, and through the research committees which have been established, we are working on this problem.

As you may have heard yesterday, a great announcement was made here in Allegheny County several weeks ago that the Union Steel was installing electric precipitators at their Homestead works. We are looking into that matter now.

I might conclude by saying that in these

communities we feel it is very essential to have an organization like the United Smoke Council to develop and support strong public opinion, to get it behind such a thing as smoke control.

THE TOASTMASTER: We wanted to give you a little background of this thing. We try to keep our eyes open for additional steps which should be taken. We hold these bi-weekly meetings, to which we invite for instance, the President of the United States Steel Company, and other representatives may be invited over the year to study this programme in regard to precipitators.

At another time, the Power authorities may be called in, to find out what they are going to do with the situation. They may find it necessary to build other stations, because the load is increasing so rapidly.

At other times, we get in the railroads. Then at other times, we get in representatives of the various communities.

I live in New Lebanon, seven miles away, which has not a programme for gathering trash, and we have, at the present time, in New Lebanon, tried to ascertain what might be developed.

By continuous pressure of that type, on the

part of our associates, the city and county people would have primary responsibility for the control of this thing, and we hope to assist those people in regard to smoke control.

Now, Judge Wolk, I know you have a very interesting story to tell. You have been in the thick of this fight. You are well able to discuss it with us, and I would ask you if you would like to say a word at this time.

HIS HONOUR JUDGE WOLK: Mr. Toastmaster and gentlemen, and our very good friends from Canada. You come from a wonderful country. I have been there twice.

Back in December, 1940, when I first suggested that we take some real steps in order to eliminate smoke in the city of Pittsburgh, the cry went out, and appeared in the newspapers, that we were going to take the bread out of the miners' mouths, and that industry would leave town. Smoke coming out of the chimneys was a sign of prosperity, and they said we wanted to kill it.

We had terrific opposition in the beginning. We had the two newspapers, particularly from a publisher who is now dead, the publisher of the Pittsburgh Press, whom I will always remember with the greatest affection, because he supported me to the limit, and it required tremendous support in those days.

The Mayor appointed a Commission, of which I was the Chairman, and we went about investigating the problem, and what I will say to you today is this; that is exactly the way we did it, and one of the gentleman whom you see here, Professor Ely, was a member of our technical Committee.

We had five technical advisors, one of them being in Washington all the time. We had four here concerned with some of the various problems. You can well understand that some people have axes to grind, because of their special interest, but we happened to have two men -- and Professor Ely was one of them -- who had no axes to grind. The other was a very competent combustion engineer, a Professor at the Carnegie Institute of Technology, and he supported us. Then we had some problems which were considered by our own technical men. I am a lawyer, and I was trying to get information.

However, finally we selected a young man to take the job as Superintendent of Smoke Control, but when we arranged with him, his company offered him such a raise in salary, that we could not get him. He said he would like to help us out, and he has been voluntarily with us ever since. He is a very competent man, and deserves a great deal of credit for helping us in the enforcement of our ordinance.

This smoke control and the elimination of air pollution, does a tremendous thing for any community.

After the ordinance was passed, we had what they called the "Railway Club" in Pittsburg, composed of representatives of all the railroads. They invited me down to speak on smoke and air pollution, and it was just like a lamb going into the lion's den, because we had had some bitter contests with the railroads in connection with this ordinance.

I said that at the time and it has been printed. I do not know what method they used, but they transcribed everything that was said, and it was printed in booklet form. I said, "Beside the good which will come from eliminating bad air pollution, there is a by-product which goes far beyond the value of merely eliminating air pollution, and is one in which the community can really accomplish such an important thing as ridding this atmosphere of the air pollution, which will create a new spirit in the community, and from it will come some great things for the entire community". That prophecy has come true, and we have had some marvellous public-spirited people in this community, and one, representing the Allegheny Conference, has done some marvellous things.

But the best one was this smoke elimination

ordinance.

My advice was this -- I had some people from Los Angeles, but I did not have an opportunity to talk to them, or I would have told them the same thing.

You have to have the "guts" to do the thing you want to accomplish, and air pollution is one of the important things for a community, to have a community free from air pollution, from the point of view of health and otherwise.

We showed in our report, the tremendous loss from air pollution, and what I have to say to you is, to make up your minds to quietly get some public-spirited citizens to sit down with you, and let the public know what you are doing, and get the newspapers behind you, and try to do the job, and do not allow anybody to persuade you that it cannot be done. They tried to tell us that here, and to put it off for ten or fifteen years, but I would advise you not to let them do that, because we have enough scientific skill in America to initiate and accomplish our objective.

Please, if you really want to eliminate air pollution, go home and do it, because you can do it. (Applause).

THE TOASTMASTER: Thank you very much, Judge Wolk.

I may say to you gentlemen, that you have heard from one who has been in this programme, in every phase.

I do not know whether any of you were here during the black days of Pittsburgh. There has been a tremendous change, and as John Grove likes to point out, that was the start, because we could not go into the black hole, and begin to talk about making other improvements.

I think perhaps I might ask if any of you gentlemen have any questions you would like to ask. Sometimes, if we can answer specific things, the information will fit more closely into what you would like to learn.

THE CHAIRMAN: That will be fine. But just for your information, Mr. Toastmaster, we have been asking questions for many hours since nine o'clock yesterday morning, and we have had a great many answers, and Judge Wolk's comments were "right down our alley".

Perhaps some member of the Committee would like to address a question to this gathering.

MR. THOMAS (Oshawa): Mr. Toastmaster, what is the budget of the air pollution department in the city of Pittsburgh? Have you any idea?

DOCTOR ELY: Our air pollution budget at the

present time is about $58,000. That is only the city. The actual over-all gross figure is about $75,000. Is that what you wanted to know?

That may go up or down a little bit as the years go by, but it will be in that neighbourhood.

MR. THOMAS (Oshawa): How about the county budget?

DOCTOR ELY: I do not know what that is.

THE TOASTMASTER: I believe you are going over to see Mr. Wurts, the County Smoke Commissioner, and he has that information, and can give it to you.

DOCTOR ELY: I think theirs is smaller than ours, because they have not as many men. I think Mr. Wurts has only four or five inspectors, whereas we have twelve or thirteen.

DOCTOR EVIS (Secretary): Was there some pressure brought to bear on your wealthy people? I was wondering if we could get some pressure put upon our people with means. I was wondering if you had a donation from some of your wealthy people here.

MR. GROVE: No.

THE TOASTMASTER: The only thing I have to say on that -- I do not know whether it is apropos or not -- Doctor Weidlein was talking to a group one day about smoke control. He has been very active over the

years, and going through his files, he came upon some papers from about 1919, which were very interesting. There was some talk at that time about cleaning up Pittsburgh, and so forth, and they had a one-day symposium, and the cost was $263.

The Treasurer was one of our wealthy people of the time, and at the bottom was the notation, "Personal cheque from this wealthy man, $275.14". So he covered the cost of that one-day meeting.

I think one of the things which is perhaps as important as anything else is the assistance you get from outside. You have to have the people enthused about it, and the people who are concerned with this "back-yard burning" have to pay for it. It becomes a matter of personal contributions.

HIS HONOUR JUDGE WOLK: While the newspapers -- and particularly the Pittsburgh Press -- at the time were pounding away while we were doing the investigating, we were developing a terrific citizens' organization in the community, and that is where these gentlemen here, and others, were so helpful.

The papers were publishing the fact that this group or that group were getting behind the smoke control programme.

By the time I, as Chairman, was ready to prepare

a report, I had a list as long as this (indicating) of people writing in, giving the names of the various organizations and groups in this community who were solidly behind this smoke control programme. So, by the time we were ready to introduce the ordinance into Council, we had developed a terrific public spirit behind us, and even those who had special interests, and consequently, an axe to grind, were unable to make any impression, because of this pressure.

THE CHAIRMAN: Was there opposition by some of the members of Council?

HIS HONOUR JUDGE WOLK: We had one man who continuously made trouble for us throughout the years. Every election he brought in a petition. He was speaking for those whom he called "little Joe's", who had to pay the bill on account of the higher price of coal.

He brought in a petition at one time with about 50,000 signatures, but apparently it has had no effect whatsoever,because the men who voted for the report were always re-elected, and they had the support of the community, and at the last election, no one ever mentioned the subject. Everybody is for it 1000 per cent.

Of course, you have to operate the thing in

a proper way, and that is the way it has been run in our Health Department. It is operating properly. They are doing a good job, and we hope to solve this last problem, and I think we will.

THE CHAIRMAN: Did you get any help, financially or otherwise, from the State?

HIS HONOUR JUDGE WOLK: I do not know what they did in the Legislature. They became so mixed up.

The Attorney-General sent me down a proposed statute, and wanted me to send him my comments, which I did. I do not think it ever was passed. I made some very extensive comments on it. I had Professor Ely on it. He will remember when we had the State statute proposed, and we were asked to comment on it, but nobody gave us any money. We spent what little money was necessary. As a matter of fact, there was not much money to be spent at all.

We had nine members of the citizens' committee, and the only public officials were Doctor Alexander, who was the head of the Health Department, and myself, as a Councilman. The others were public-spirited ladies and gentlemen, and they worked earnestly and zealously and had the "guts" to do the job, and they came to certain conclusions, where they thought that opinion was impartial, and apparently they came to the right

conclusions,because the facts speak for themselves from what has happened during those years.

You have to make up your mind to do it. You will have enough people telling you you cannot do it.

THE TOASTMASTER: The county had Mr. Besserello here. He was the head of the Coal Miners' Union. You might as well get them in first, and allow them to have a part in it, rather than having them stay on the outside, in which case you may have your troubles.

Eventually Mr. Besserello said the thing was alright.

HIS HONOUR JUDGE WOLK: Some of the responsible citizens in our community -- for instance, the Allegheny County Steamheating System -- in order to eliminate the fly ash, spent $600,000, which was an outright expenditure, and they claim they did it only as a public service in an endeavour to make the community a better place in which to live.

We have a wonderful company here, the United States Steel. Jones and Laughlin is here, and they are both very public spirited, and while they do not give money toward this thing, they spend a great deal of money to accomplish our objectives, and they seem to be willing to do it.

THE TOASTMASTER: That certainly is correct.

MR. VENABLE: Relative to the point regarding benefit to health within the community: years ago, some of our prominent citizens tried to do that, and again it was Doctor Weidlein who acted for a number of others.

They felt if the people were taught how to fire their furnaces properly, there would be no smoke, and they spent good money, and hired a young engineer from the Carnegie Institute of Technology to go around and teach the householders how to fire their furnaces.

They spent a considerable sum of money, but it did not work. The people who created the problem would not be taught, and it was necessary to cut this back.

HIS HONOUR JUDGE WOLK: We decided not to do that at all. It was simply a waste of money.

THE CHAIRMAN: Mr. Toastmaster, we gathered yesterday that by using natural gas in an area, this problem would have taken care of itself, anyway. Is there any truth in that statement?

THE TOASTMASTER: I do not think there is.

MR. GROVE: In 1955, there were 55 million tons of bituminous coal consumed in Allegheny County. There is a great deal of it used for industrial purposes, and there is a great deal of domestic heating by using smokeless fuel in this country.

It has helped, just as the coming of the diesels helped, as far as the railroads were concerned. But we could not do without the ordinance which provided for the local use of fuels.

THE TOASTMASTER: I think people were forced to purchase smokeless fuel which was more expensive, and they were happy to change to gas. It was easy to burn, so it was our feeling we would have had gas anyway. However, I am not sure of that. If it were not for the gas, I think a great many would still be using dirty coal.

HIS HONOUR JUDGE WOLK: There is this simple statement; you have to use smokeless fuel, and it has decreased, I think, the volatile contents by 21 per cent.

MR. GROVE: 23 per cent. in the county.

HIS HONOUR JUDGE WOLK: If you want to use bituminous coal, it is usually 35 per cent., you have to use equipment which will burn that high-volatile coal smokelessly.

It is like the governor on a motor car. When your speed limit is 50 miles an hour, plenty of people violate the speed laws, and you simply cannot stop them. If you had a governor on the machine, it would prevent them from going over 50 miles an hour, and they could not violate the law.

That provision in the law has the same effect in regard to the use of smokeless coal in any equipment which will burn the fuel smokelessly.

We had on our Board a wonderful gentleman who spoke to these people, about what we refer to as "Disco". That was because they were using some waste material from coal, and it was not done for the purpose of manufacturing "Disco", because it was a solitary thing.

I said, "Here you have this coal; you can heat it to a high temperature -- 1900 degrees -- and then you get coke, which is only one-half per cent. volatile, or a temperature of 900 degrees, which is what you get out of 'Disco' and 10 per cent. which comes within the terms of the ordinance."

I do not know whether you know what we get out of the high-volatile coal. A lump of coal is like Aladdin's lamp, and you rub it, and the genie comes out and gives you anything you want.

When they saw that same possibility in regard to the smoke ordinance, they established the plant, and are now manufacturing 320,000 tons of "Disco" every year, and they are getting many by-products. It was nothing but waste, and now they are corralling it, and it is worth money.

THE TOASTMASTER: It is getting close to

two o'clock. I think we had better stop.

MR. MORNINGSTAR: In other words, Mr. Chairman and gentlemen, some of these firms change over by putting on the collectors, and they are paying dividends?

MR. GROVE: That is correct.

THE TOASTMASTER: There have been cases where it has. There have been other cases, where perhaps it has not. It will pay dividends in providing a better place for the employees to work. I think that will pay the big dividend to industry, as it will provide decent places in which the men can work.

DOCTOR ELY: May I say one word?

THE TOASTMASTER: Just one word, and then we will close this off.

DOCTOR ELY: You cannot put a value on health; neither can you put a value on beauty, but we can put a value on cleanliness and that is what we have done.

With the cleanliness we now have, the saving at the present time is very close to about $40. per individual per year.

THE TOASTMASTER: I think now, Mr. Reid, you are going to take the people over to Mr. Wurts' office. Do you want to go now?

MR. REID: I will ask some of you to go with me, and will thank the rest of you for being here.

MR. THOMAS (Oshawa): Mr. Toastmaster, Mr. Chairman and gentlemen; before we go on our journey this afternoon, it is my pleasure to have been delegated to the task of thanking the members of this committee for the privilege of joining you at this informal luncheon.

I assure you we appreciate the hospitality of the people of Pittsburgh.

When we were first appointed by the Legislature in Ontario last year, the subject was something which we approached with a great deal of hesitancy; we were not too well acquainted with the problem, as we were living in a young country, and we realized there were likely to be problems in the years to come which would have to be faced, and we considered ourselves very fortunate in having these good neighbours to the south of us, upon whom we can rely, to help us in our studies.

We have a rather outstanding programme still ahead of us. We have asked the public who manufacture some of the things in which we are interested, in their initial stages, what their problems are likely to be.

We have visited Detroit, Buffalo, Los Angeles and Chicago, and were told that"whatever you do , do not pass up Pittsburgh, because they have done a

wonderful job down there", and after being with you for these two days, we appreciate the tremendous job you have done. We are fortunate in having neighbours like yourselves to whom we may appeal to come to our assistance. We are neighbours in this now.

If we are instrumental in recommending to the Legislature of Ontario, some plan which will benefit the people, I think we can thank you for what you have done.

I think, as His Honour Judge Wolk mentioned in his reference to Canada, that we have a great country up there, and with the great industrial expansion and immigration going on in our country, we think we are in the position today the United States was in 75 or 100 years ago. I thought it would be appropriate for me to put a "plug" in for Canada, at a time when many of you will be starting your vacations, and may I ask of you, why not come and see us? We have good fishing and a great, rugged country.

I am reminded of the story of two Americans who were visiting northern Ontario. I am not sure whether they came from Pittsburgh, but they spent some time fishing up there, and were on their way back, and seemed to be some distance from any hotel, and they saw a little farmhouse in the distance.

They knocked at the door, and the farmer's wife came to the door, and they said they would like to be put up for the night. But she said, "I am sorry; I cannot do anything for you. We have only the one bed", and they said, "We appreciate that, but if you could only bed us down somewhere, we would be happy". Eventually, she decided to do that.

The following morning they got up and went on their way, and they did not meet each other for a year or two, and when they eventually met, one said, "By the way, do you remember the night we were visiting that place in Canada; why did you not tell me that during the night I paid a visit upstairs?", and the other said, "Did I not tell you? I had completely forgotten". And the first man said, "On top of that, you gave the lady my name", and the other said, "I really forgot about it, I am very sorry".

The first one said, "That is quite alright; I had a letter from her lawyer this morning, saying she had died and left me $20,000". (Laughter).

I want to thank you sincerely, Mr. Toastmaster and gentlemen, for your hospitality and for the information we have received, which we have found very interesting, and most valuable.

Thank you, very much. (Applause).

---Whereupon at 2:04 o'clock p.m., the further proceedings of this Committee adjourned until this afternoon at 2:30 o'clock p.m.

A F T E R N O O N S E S S I O N

Pittsburgh, Pa.,
Wednesday, June 13th, 1956,
2:30 o'clock, p.m.

- - -

The further proceedings of this Committee reconvened in the office of Mr. T. G. Wurts, Director, Bureau of Smoke Control, Allegheny County.

Mr. A. H. Cowling, Chairman,
Presiding.

PRESENT:

Messrs. Murdoch,

Morningstar,

Elliott,

Gordon,

Thomas (Oshawa),

Dr. Fred A. Evis (Secretary)

APPEARANCES:

Mr. Harry Belyea,	Hygiene Engineer, Department of Health, Ontario.
Mr. T. G. Wurts,	Director, Bureau of Smoke Control, Allegheny County.

- - - - -

T H O M A S G. W U R T S,

Director, Bureau of Smoke Control, Allegheny County, appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Mr. Wurts, would you proceed, please, in your own way?

A. I think the best thing for you to do is to ask questions, and I will try and answer them.

Q. Can you explain to us the difference in the ordinances?

A. Because there was a complete different in concept, in the first place. There was a concept different in manner in which it was put together, in the second place, and there was a considerable difference in the problem.

The city, as of 1942, and still as of 1946, had a considerable amount of congested residential slum, low and middle-class coal-burning areas, and a considerable amount of small industrial operations, having to do primarily with carbonaceous combustion.

Our local coals -- which are probably the best in the world, from 36 per cent. to 39 per cent. volatile, when burned in pot-bellied stoves, in which case they put out a great deal of smoke, what we call

"No. 10 Smoke".

Then we had one steel company, the Jones and Laughlin Steel Company, the answer to which none of us knew at that time.

Their ordinance was patterned almost word for word on the St. Louis ordinance.

St. Louis -- and I am reaching into the air now -- burned perhaps 3 million or 4 million or 5 million tons of coal per year, and about 3 million tons of that was domestic consumption, and they had very high sulphur from poor quanlity coal which came from Illinois into these fields. We had three vehicular bridges across the Mississippi, and somebody got the happy idea of policing those bridges and keeping the coal out, making them use the Pocohontas coal, which is about 16 per cent. or 18 per cent. volatile, and smokeless. I think that per cent. volatile is provided for in other ordinances, and up to 23 per cent., with a compromise.

That was put in there because they thought they could open up a larger supply of low-volatile coal coming from Sommerset County, about 100 miles away, but what is the difference between 20 per cent. and 23 per cent. volatile?

The County ordinance got off to an excellent start in that there were no pre-conceived ideas as to

what should be in it, and we had most excellent advice.

We inaugurated a system which so far has not been duplicated, of having one group of people make the rules, in other words, draw up the ordinance, and another group of people administering and enforcing it.

Psychologically, this is most important, in that we did not have one group making the rules, also administering them and enforcing them; in other words, to have the Legislature, and the judge and jury, all in the same group.

Q. Do you have such a Board here in the county?

A. Yes, sir. We would not be without it.

Q. How is it doing?

A. We were very fortunate in having Doctor Weidlein as our Chairman. He has just retired as Chairman of the Mellon Institute, and has been in the smoke game since 1911.

One of our most influential citizens was most interested, and from his own personal exchequer made numerous donations for research work at the Mellon Institute. You saw Doctor Weidline in the movie today. He has issued six or seven pamphlets on particular aspects of the whole problem.

The members of that Committee were -- I will not name them, but I will give you who they were --

BY THE CHAIRMAN:

Q. They are still on the job?

A. Yes, sir.

Q. How often do they meet?

A. At the call of the Chairman, which is not too often. The subcommittees do a great deal of work.

Here is the President of the United Mine Workers, District No. 5.

A Vice-President of the Union Barge Line.

A housewife who is on the Board of the Gumbert School for Wayward Girls.

President of one Teamsters Union in the town.

President of the United Steel Corporation.

An advertising man.

President of the Duquesne Life Company.

Operating Vice-President of the New York Central Railroad. He is now President of the Pittsburgh and Lake Erie Railroad.

The Chairman of the Chamber of Commerce's Smoke Abatement Committee.

Director of the Pennsylvania Economic League.

President of the Holmstead Valve Company.

Executive Vice-President of the Pittsburgh Consolidated Coal Company.

Editor of the Pittsburgh Courier, a Negro paper.

Q. These gentlemen hear special cases?

A. They do not hear anything.

Q. They just back up what you do?

A. No, they make the rules.

BY MR. BELYEA:

Q. You have the top people, who can speak and act.

A. They make the rules. They wrote the first edition of this (indicating), and they revised it.

These fellows do not do the actual foot work. They use subcommittees.

They had a steel committee headed by the President of the United States Steel Corporation, and he has a co-Chairman, an assistant to the chief engineer.

One of the men in his engineering department, and on that committee, was the engineering Vice-President of the Allegheny Ludlum Steel Company.

The General Superintendent of the American Steel and Wire Company.

The Vice-President in charge of operations of the Pittsburgh Coke and Chemical Company.

The Vice-President of the National Tube Company.

The Chief Engineer of the Edgewater Steel Company.

The Smoke Control Advisor, of the Jones and Laughlin Steel Company -- although they were not in Allegheny County.

The Chief Engineer of the Blewknox Company.

Vice-President in charge of engineering of the Lockhart Iron and Steel Company.

They drew up the steel regulations.

Then we had a subcommittee of the railroads. That was headed up by the gentleman who is now the President of the Pittsburgh and Lake Erie, a subsidiary of the New York Central.

The General Manager of the Union Railroad.

The General Manager of the Pittsburgh and West Virginia Railroad.

The Vice-President of the Montour Railway.

The Superintendent of Motive Power of the Bessemer and Lake Erie Railroad.

The Mechanical Superintendent of the Union Railroad.

The General Manager of the Baltimore and Ohio Railroad.

That was all.

Then we had a Central Station committee. I thought they were going to take on a large plant, but they elected to take everything down to the iron fireman.

That was headed by the President of the Jones and Laughlin Steel Company. He had a co-Chairman, the General Superintedent of the Duquesne Light Company, who had spent sixteen years on the air pollution committee, drawing up ordinances.

They had a representative of the United Steel Company. They had a Secretary, who was in charge of all superintendents of maintenance of the Jones and Laughlin Steel Company.

They had the Vice-President in charge of service of the Westinghouse Electric Company.

They had the Chief Engineer of the H. J. Heinz Company.

They had the Chief Engineer of the A. M. Byer Company.

And they had the Vice-President in charge of engineering of the West Penn Power Company. That was all of that committee.

BY THE CHAIRMAN:

Q. Who got all those fellows in?

A. Doctor Weidlein appointed from the main committee, the Chairman of each subcommittee. Each Chairman appointed his own committee, and each Chairman did not just pick up a telephone he went around and saw the Presidents,or the operating Vice-Presidents,of all of

these various industries we had around here, and said he wanted the top advice on these subjects.

So he spread his interests out just that much further, and we had these engineering Vice-Presidents, Chief Engineers, and what have you, sitting on these various subcommittees.

Then we had one other committee to take care of the reports of certain industries, the chemical industry, the oil-refining industry, and the coal companies.

That was all the miscellaneous committee members. They immediately went to work.

BY MR. MURDOCH:

Q. Are there any air pollution problems outside the borders of your controlled area?

A. Yes.

Q. Are they being handled by the neighbouring municipalities?

A. No.

BY MR. ELLIOTT:

Q. You have a problem then?

A. We have a large steel operation. The worst one is the large operation of the Jones and Laughlin Steel Company, down on the Ohio River to windward of us, but I am quite sure that some of that stuff blows into Allegheny County.

Then, just over the border, up the Monongahela River, we have a place called "Denora" which had a bad reputation a few years ago.

Then we have the steel company at Menessen just above Denora. That is the Pittsburgh Steel Company.

Those are the two worst localities.

We have the burning of what we call "coal refuse piles", and that happens here to a greater or lesser extent.

All you have to do is to go out on the turnpike here about three or four miles from Irwin, where you used to go onto the turnpike, and you run into the Beehive Coke Ovens, and we also have them down at Connelsville.

BY MR. MURDOCH:

Q. Has there been any attempt made to bring them into your group?

A. Not into our group. Not from down there. They are too far along for that.

BY MR. THOMAS (Oshawa):

Q. How many municipalities or local authorities would you have in the county?

A. In this county?

Q. Yes.

A. 129.

Q. Do any of them have their own regulations?

A. They all have their own regulations. They are completely out of step with us.

Do not try to spread this out beyond the county. All you have to do is to go upstairs and listen to the woes of the legal department in determining the responsibility for some little bridge which goes across a creek, which happens to be the dividing line between the two counties. You can get into a terrible wrangle-ment.

The only way it can be done -- and I have analyzed it considerably -- is for each county to give up some of its rights, but they are most jealous of them.

We have 129 burroughs and townships, and each of them is terribly jealous of its perogatives.

Any time anything comes in by way of regulations or orders from the county level, they bristle up, and you have a job on your shoulders, and you have to handle them with patience.

BY THE CHAIRMAN:

Q. What staff do you have?

A. I have six inspectors.

Q. What is your annual budget?

A. About $70,000.

Q. Do you have many occasions to discipline the

people or fine them?

A. The bigger the crowd, the less trouble you have, but there are always a certain number of "so-and-so's" to try to "get away" with things.

BY MR. THOMAS (Oshawa):

Q. Is there any expenditure for advice?

A. Not advice.

Q. For inspections?

A. We do not have annual inspections. We have a fee for measurements or permits, and the ordinance has required, from the beginning, that not only new industries shall have permits, but old industries as well.

BY THE CHAIRMAN:

Q. In other words, before a new building goes up, they must have the permit you recommend?

A. No; they must come in here and show us their drawings, what they have by way of package units, the number of package units, and must obtain from us a permit for installation.

Unfortunately, we do not have as good a plan as the city has. The city ordinance reads that no building permit can be issued until the fuel-burning equipment going into the building has been approved by the Bureau of Smoke Control.

We have 129 municipalities issuing building

permits, and with the exception of one, none of them has the grace to come in and ask if we have issued a permit for heating equipment. The majority of them think that would be too much trouble, to come to us and ask that question. They are very jealous of their perogatives.

BY MR. BELYEA:

Q. I think Mr. Thomas (Oshawa) was referring to the fact that almost every jurisdiction has permits.

A. We can issue permits for everything. We are still accumulating the information.

One of the reasons is we want to know what everybody is doing, and that has been found to be extremely valuable.

Q. You are only one of a few cities which does not go into existing buildings and require permits for them?

A. I do not know about that. I think we are.

For instance, if we get a complaint about the "XYZ" plant, the first thing I would do would be to go into the plant and see what permits they have.

BY MR. ELLIOTT:

Q. Have you any complaints from diesels going up a hill?

A. We have not the buses nor trucks running into the furnaces, but we do have the locomotives

running in. I think we were the first to bring a complaint against the railroad.

Q. That is the worst complaint we have, that the smoke from the diesels affects the following vehicles.

A. I do not see how you can enforce it; maybe you can. If you do it on a province-wide basis, perhaps it can be done.

We have not the policing authority granted to us by the Legislature, and it would have to be granted by the Legislature, and I question whether they would give us the policing authority to haul a "guy" up before a Squire.

We simply take the license number and find where the headquarters of the company is located, and if it turned out that the headquarters was located in Kalamazoo, they would just laugh at you.

There is nothing in the ordinance which we could enforce at all.

Q. You have not the authority to summons them?

A. We have, by right, but there is nothing which is enforceable. There is nothing in that ordinance for which we do not know the answers.

BY MR. THOMAS (Oshawa):

Q. We heard yesterday that in the State of New Jersey, if the local council refused to enforce the

regulations, the State could step in and enforce them for them.

What do you think about that?

A. I think it is "lousy".

Q. In what way?

A. If a local community has not enou h civic pride to want to clean this up, I would let them stew in their own juice.

I thought I was going to have trouble with these mining communities, because they buy coal at cost. The United Mine Workers have a contract to buy at cost, at the tipple, and they burn it in their own stoves and grates, and what have you.

John Bassarello was the President of the Union. I called him up about the time the residential regulations went into effect, and I said, "John, what do you think of this?", and he said, "Let the mining towns 'stew in their own juice' ; as far as I am concerned, I will not monkey with it". He said, "The United Mine Workers live in Holmstead, and the steel workers live elsewhere, and there is no reason why the steel workers should get a supply".

I said, "You are absolutely right". I said, "Will you come over on Tuesday?", and he said, "On Tuesday, we have about 20 guests here; will you come over?".

So I went over and met them. All they wanted was a bulletin from this office that they could show to the coal yards, so they could buy "Disco" from the coal yards. It is a low-temperature coke, and they buy the other half of their coal from the tipple at their price.

That was all there was to it. They got into the spirit of the thing.

BY THE CHAIRMAN:

Q. With what places have you had difficulty in bringing them into line? I mean, what types of industry?

A. I think maybe the coal dealers, trying to "put it over".

BY DOCTOR EVIS (Secretary):

Q. What type of penalty would you put on them?

A. The maximum penalty limited by permissible legislation is $100.00.

BY THE CHAIRMAN:

Q. Do you think that is enough?

A. No, but it is a great deal better than $25.00.

BY DOCTOR EVIS (Secretary):

Q. Just starting out, from our standpoint, what would you say would be a more ideal penalty?

A. Maybe starting out with $100.00 for the first

offence, $250.00 for the second offence, and $500.00 for the third offence. I would have it something like that.

BY THE CHAIRMAN:

Q. Do you have many people who pay the $100.00 and go on with it?

A. Not very many. We have a few.

We formerly had a great deal of trouble with scrap yards, burning a lot of car bodies. We had some indignation meetings about that.

BY MR. THOMAS (Oshawa):

Q. As you find that some of the local councils are not co-operating, while there might be some opposition to the enforcement, would you agree it would be better to have a county ordinance covering them all, to make them "toe the line"? You really have to "crack the whip" with some of them, to make them "come to heel", do you not?

A. I do not know how your powers are distributed as between your counties and cities.

We had to get an Act of the Legislature in order to be able to draw up a smoke control ordinance.

BY THE CHAIRMAN:

Q. Did you have any trouble getting that?

A. You are right. That was before my day. They had plenty of trouble. The lobby by the railroads

was so strong that they prevented the first Act going through. They finally forced that out, and poor old Ely took the brunt of that railroad row, but by the time I came along, they were pretty well straightened out.

Q. Then they had to find it out by actually trying it on the job?

A. Yes. They said it was impossible.

I had a very good friend at the Pennsylvania Railroad, in the top brackets. They had a big passenger yard there, and they burned this high-volatile coal there, and they would open the door, and turn on the blower.

One day I was working on some data, and I said, "I think you and I would like to know something", and he said, "What is it?", and we went to the coal bunkers, and they had high volatile coal on the switch engines, and low-volatile coal to take the trains out of the city. The switch engines were all on low-volatile.

I said, "You remember back in the old days when you were using high-volatile coal, with the fire door open, and the blower running all the time, when you shut the throttle off, what was your burning rate?", and they found out the burning rate was greater with the low-volatile coal.

He came back in about three-quarters of

an hour, and said, "That really is something".

They were burning 20 tons of high volatile per day, as compared with 8 tons low volatile, and I said, "You are paying a premium price for the high volatile coal".

BY THE CHAIRMAN:

Q. It is a little more expensive?

A. A little bit, because of the longer hauls.

Q. What kind of coal are they burning now?

MR. BELYEA: They will not tell us.

THE WITNESS: Get a sample, and analyze it.

MR. BELYEA: It is not the railroads; it is the city. If somebody just set up something, we could do it.

MR. GORDON: You mean to say the city does not know the kind of coal it is using?

MR. BELYEA: I guess so. Anybody who is on his toes, knows there is some place to get in and do something.

BY THE CHAIRMAN:

Q. They are burning the wrong kind of coal, because they are getting black smoke, so they will have to change their coal, because we know they are using the worst type.

A. Most of them are installing diesels.

Q. They really cured it here with the diesels?

A. Yes. The funny part was that a number of these railroads were going to change to diesels, but they had the fool notion that the coal operators were their customers, and they would not fly in the face of their customers.

Q. We have often heard the expression, "Pittsburgh, the Smoky City" in the days eight or ten years ago, when it was at an all-time high; were the coal-burning locomotives great contributors to the over-all smoke?

A. There is no question about that. So were the tow-boats on the rivers.

Q. What did you do about them? Change them to diesels?

A. They are all diesels. We have only four coal-fired tow boats on our rivers today, and they operate between the coke ovens and places away up the Monongahela River, almost at the head of navigation.

They bring coal down in barges to the coke ovens, and coke it, and then go back with empty barges. That is all there is to it.

The greatest factor, in my book , in the whole thing,is the fact that this group I enumerated to you, made up of the "top brass" of industry, lay down these rules.

St. Louis and Cincinnati primarily had

inaugurated, for some years before we got started, what is known as "self-inspection of the railroads".

They were saddled with the responsibility of holding down this smoke from the steam switch engines, so they had what is termed "Self-inspection".

When the ordinance went into effect, I got in touch with the Railroads'Advisory Committee, and I said, "I think it would be a smart idea if you followed St. Louis and Cincinnati and appoint yourselves as self-inspectors."

That is still in effect today, and we have numerous meetings of these inspectors. We held a meeting just this morning, and we discussed their problems, and learned how they were solving them.

BY THE CHAIRMAN:

Q. Changing over from coal-burning to diesels, did the railroads start off by putting diesels on through runs, or in the switching yards, or through the urban areas?

A. In the switching yards.

Q. At home, it is just the reverse; the diesels are on the through runs, and the coal-burning locomotives are in the switching yards.

A. If it was in Montreal, you would find the report of the economy of diesel switchers over steam switchers.

Q. What did he say about Montreal?

A. I knew the "guy". I used to be in this game. He was the General Superintendent of Motor Power of the Canadian Pacific Railway -- I think it was. I think he is now dead.

Q. Was that report made public?

A. Oh, yes.

THE CHAIRMAN: Do you know anything about it, Doctor Evis or Mr. Belyea?

MR. BELYEA: I know the history of it.

THE WITNESS: They found out that a steam switch engine was something like less than 1 per cent. thermally efficient, and the diesel switch engines were something like 22 per cent. thermally efficient.

BY THE CHAIRMAN:

Q. It is a big decision to make in Canada, because we have not followed through on that principle before.

A. That is right.

Q. That is a very remarkable statement.

A. I was in on all of that. I worked for the Westinghouse, and they brought over the Beardmore engine from England, which was not suitable for switch-engine work, nevertheless, they sent the test engine out, and it began with 900 revolutions per minute on the

Canadian Pacific, and there was quite a number of them back in those days. I am speaking about just after World War I.

In addition to that, the use of gasoline traffic is really growing over here.

I wish I could think of the name of that man in Montreal.

BY THE CHAIRMAN:

Q. In what year was this report made? Do you remember?

A. I would say probably 1927, 1928, or 1929.

Q. Have you copies of it?

A. Yes.

Q. Would you know where to get copies of it through Westinghouse?

A. No, because all the people here are dead, who would have had anything to do with it.

This fellow brought these Beardmore engines for the Canadian Pacific Railway. I am pretty sure it was the Canadian Pacific Railway. He built some rail track, and put this engine on it. I was in on a great deal of this stuff.

Then, all of a sudden, the General Motors bought the Electric Motors Company, and very shortly afterwards went "all out" for diesels, and put the diesels

on as switching engines, and started to switch.

Q. As far as our railroads are concerned, there is a difference of opinion. Some say it will take about fifteen years before there is complete dieselization of the Canadian railroads. Others say it will be less than that.

A. Nobody here ever dreamt it would ever come as fast as it has.

When the ordinance was brought in, in 1947 or 1948, the roads into the furnaces were all clay, with the railroads instituting a research programme to reduce the mass of cinders from about 75 per cent. and then the diesels came along, and they gave them five years to complete the work. They spent a great deal of money, but they never recovered more than about 50 per cent.

They built full-scale equipment, and mounted it on a Pennsylvania class "M", and put it in the testing plant at Altoona, and never got better than 50 per cent. collection.

These are the main-line engines. They were quite a success, and there were some experimental engines in the northwest.

Q. The main-line engines are no problem at all?

A. Well, Batell, of the Norfolk and Western, did some pretty good pioneering work, and they have put in

some of the diesel switch engines, and it is estimated they will pay for themselves in three or four years.

Q. It is only about one-third of the cost, is it not?

A. Yes.

BY MR. MORNINGSTAR:

Q. And they have no firemen?

A. They should not have any firemen; I will put it that way.

BY MR. ELLIOTT:

Q. He is actually a signal man?

A. They even have an automatic bell ringer.

BY THE CHAIRMAN:

Q. I think it runs around $350,000 for a main-liner?

A. It may run around $500,000.

Q. And for an ordinary switch engine, it would be about one-half of that?

A. Formerly they cost about $100,000 each. I do not know what they cost now. Perhaps the price has gone up since I got out of the game.

Let us follow this through. They have self-inspection on the railways, and then, of course, the diesels came along.

One day I had the germ of an idea, and I called

up the President of the Carnegie Steel Company -- now the Illinois Steel Company -- and I said,"I have an idea; when can I come over?". He told me.

I went over, and I said, "These railroads in Cincinnati, St. Louis and Pittsburgh have self-inspections. It seems to me like a lot of "tomfoolery" to build up a crew of inspectors, if you have to go through all this rigmarole of getting these fellows certified as non-Communists, and what-have-you, and get passes to go through the gates, when you could have self-inspection in your plant, and the rest of the steel companies could have it also".

He thought a moment, and then he said, "I think you have something", and I said, "Alright, I will leave it to you to see the other steel plants", which he did.

We wanted to have the self-inspection in all the steel plants. We have one man at headquarters, by the name of Powell, and he is the "guy" I work for. He is in charge of the chief smoke officers and staffs of every one of the plants in the Allegheny County area.

At the present time, everybody up to the General Superintendent is smoke conscious, and when a stack "goes sour", and the General Superintendent sees it, he knows that he will get a call in about two minutes,

and he also knows he has to make his monthly report. They come into headquarters, and land on my desk. I can tell you the psychological effect is excellent.

That is something I do not think, from a provincial level, as opposed to the county or city level, that you can pass up, and I think it is something you can easily recommend. However, I think it is something about which you might find difficulty in dictating.

I would not be in favour of too dictatorial action. Let it come by itself. You cannot force a law down people's throats, if they do not want it. They have to want it, and want it badly.

I was in Montreal, and my wife happens to have some relatives in Toronto, so we saw plenty.

BY THE CHAIRMAN:

Q. I think that pretty well summarizes the situation for us.

A. In other words, one of the psychologies of this thing, as we see it here, is the psychology of having one "gang" make the rules and another "gang" to enforce them.

Much to my surprise -- because the legal department is too prone to delegate authority -- this ordinance has been revised, and was in the hands of the legal department, when I "took off" for a vacation.

When I came back, the legal department had inserted the following sentence in the ordinance:

"In the enforcement of this ordinance, the Director of the Bureau of Smoke Control is hereby authorized to give the power and duty to formulate the procedural rules and bulletins.

"All such procedural rules and bulletins shall take into consideration the figures in regard to the final application of fuel-burning equipment, industrial processes, accessories and devices appertaining thereto, in determining what economical limitations shall be established", and so forth.

In other words, I am given the power and duty to revise this ordinance. I did not want it that way. I did not want to be a Hitler nor a Stalin, so I wrote in the following:

"Before issuing such direct procedural rules and bulletins, the Director shall seek and obtain the approval of the Advisory Committee".

BY THE CHAIRMAN:

Q. That is tossing it right back?

A. Certainly, and that is where it belongs.

We had a case, a year or so ago, where somebody got ahold of me from an outlying district, and said,

"I can mix coke and our local coals, and I can stay within this 23 per cent. volatile, to compete with your 'Disco' mix, which is 50/50 minus, if you will change your bulletin to call for 60 per cent. high-volatile coal, and 40 per cent. coke. Will you do it?".

I said, "We do not do things that way. We have an Advisory Committee which handles fuels. You write me a letter, and I will transmit that letter to the Chairman of the Fuels' Committee, and have you advised as to this change".

It took two or three meetings, and was given very careful consideration by the Fuels' subcommittee, and finally they agreed it was entirely right and proper to take the "Disco". I did not do it.

Q. You said you attend every meeting?

A. I am ex officio a member of the committee.

BY MR. THOMAS (Oshawa):

Q. Do you meet with the United Smoke Council?

A. Yes, I go to some of their meetings. There is no Advisory Committee in the city Bureau.

BY MR. MORNINGSTAR:

Q. That is called -- what?

A. The United Smoke Council. It does a great deal of good.

BY DOCTOR EVIS (Secretary):

Q. It is just a voluntary thing?

A. That is right. They got out in the old days, and made speeches before service clubs, and women's clubs, whipping up interest.

BY MR. THOMAS (Oshawa):

Q. And did a good public -relations job?

A. They did a good whipping-up-interest job. It was very useful.

Then there is the Smokescope. There was an instrument which came out here by which you could measure black smoke, better than with the Ringelmann charts.

Here is Bulletin No. 13, which reads as follows:

" Subject: Ringelmann Chart - Smokescope

Pursuant with authority vested in the Director under Section 206 of the Smoke Control Ordinance of Allegheny County, Section 303 is hereby amended as follows:

'The Smokescope, hereby made a part of this Ordinance by reference, shall be the standard for determining the Ringelmann Chart value of the appearance, density, or shade of smoke unless specific exemption is made herein.'".

BY THE CHAIRMAN:

Q. Is No. 206 the section to which you refer?

A. Yes. That was signed by Doctor Edward R. Weidlein, Chairman of the Smoke Control Advisory Committee.

I do not know what you want to take away with you.

Here is a paper I read some time back, which describes how this ordinance was put together by the Advisory Committee. Here (indicating) is a broadcast which I made, which is in my last annual report which contains in it the report in regard to research. If you would like to have these, I would be glad to give them to you.

BY MR. THOMAS (Oshawa):

Q. I notice in your smoke-control ordinance, it was enacted in 1949, and enforced in 1955. You gave them plenty of time.

A. No, you read that wrongly. It was enacted May 17th, 1949, and enforced June 1st, 1949; amended, July 12th, 1955, and enforced, August 15th, 1955.

That is due to the requirement that any county ordinance has to be published at least twice in the local newspapers a certain number of times before it becomes law. That is the reason for the enforcement date. It was merely a legal requirement.

THE CHAIRMAN: Before we leave you, I wish to thank you sincerely for the information you have given us. We have learned a great deal, and are looking

forward to spending tomorrow morning with you.

THE WITNESS: It will be a pleasure, I assure you. I forgot to mention that when the enabling legislation was passed by the State Legislature, the local enabling legislation was not rescinded, with the result that any community could pass its own regulations, many times without rhyme nor reason, and with no scientific background, and that has led to a great deal of confusion.

---The witness retired.

---Whereupon at 3:45 o'clock p.m., the further proceedings of this Committee adjourned sine die.

- - - -

ONTARIO

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION, IN ONTARIO.

Mr. A. H. Cowling, Chairman.

Dr. F. A. Evis, Secretary.

- - - -

VOLUME XXVII

Tuesday, September 11th, 1956.

TORONTO, Ont.

- - - -

R. C. Sturgeon,
Official Reporter,
Parliament Buildings,
Toronto, Ontario.

P R O C E E D I N G S

of the

SELECT COMMITTEE, APPOINTED BY THE ONTARIO LEGISLATURE TO ENQUIRE INTO CERTAIN MATTERS AND LEGISLATION REGARDING SMOKE CONTROL AND AIR POLLUTION IN ONTARIO.

Mr. A. H. Cowling, Chairman,
Presiding.

Dr. Fred. Evis, Secretary.

- - - -

I N D E X

Twenty-seventh Day, Toronto, Sept.11,1956.

INDEX (cont'd)

- - - - - -

TWENTY-SEVENTH DAY

Toronto, Ontario,
Tuesday, Sept. 11th, 1956,
10:00 o'clock, a.m.

- - - - -

The further proceedings of this Committee reconvened pursuant to the call by the Chairman.

Mr. A. H. Cowling, Chairman,
Presiding.

- - - - -

PRESENT:

Messrs. Elliott,

Murdoch,

Macaulay, Q.C.,

Gordon,

Thomas (Oshawa),

Dr. F. A. Evis, Secretary.

APPEARANCES:

Mr. D. C. MacDonald, M.P.P.	
Mrs. F. Edna Gardner,	(Weston Area)
Mr. P. McGregor,	Kipp,Kelly, Ltd.
Mr. W. P. Wardlaw,	Weston.
Mr. Bennett	Canadian Gypsum Co.
Mrs. Helen Weir,	Labour Progressive Party.

Mr. William Repka	Labour Progressive Party.
Mr. M. Penner,	Labour Progressive Party.
Mr. C. W. Dill,	Toronto.
Mr. J. Hicks,	George Syme Rate-payers Assoc.
Mr. David Bronstein,	Markad Company.
Mr. H. A. Belyea,	Hygienic Engineer, Department of Health, Ontario.
Mr. Joseph Reid,	Chief Air Pollution Control Officer, Hamilton.
Dr. L. A. Clarke,	Medical Officer of Health, Hamilton.
Mr. D. H. Matheson,	Chemist and Bacteriologist, Filtration Plant, Hamilton.

- - - - - -

THE CHAIRMAN: Ladies and gentlemen, shall we come to order?

MR. MACAULAY, Q.C.: I move that we officially record the deep regret of this Committee at the loss of Mr. W. Elmer Brandon, one of our most valuable and esteemed members. I understand that an official letter of condolence has been sent to Mrs. Brandon on behalf of the Committee and, therefore, it is not necessary to suggest such a letter in this motion.

MR. T. D. THOMAS (Oshawa): I second the motion.

Motion unanimously carried.

THE CHAIRMAN: Is Mr. Howard Hall, Clerk and Solicitor for York Township present? (No response).

I see Mr. Bronstein is here. Perhaps he would like to address the Committee at this time.

MR. BRONSTEIN: I have nothing to say to the Committee, Mr. Chairman; many thanks for the opportunity, nevertheless.

THE CHAIRMAN: You are just going to listen in?

MR. BRONSTEIN: Yes, Mr. Chairman.

THE CHAIRMAN: Is Mrs. F. E. Gardner here?

MRS. GARDNER: Yes.

THE CHAIRMAN: We will be very glad to hear anything you have to say, Mrs. Gardner. Would you be good enough to come forward so we can all hear you?

MRS. GARDNER: I think, Mr. Chairman and gentlemen, I could conserve your time by reading what I have to say.

THE CHAIRMAN: That will be fine.

MRS. GARDNER: We have prepared the following brief:

" Some time ago I enquired of Dr. Evis as to the measures we presently have for the control of dumps. There seems to be very few, and he suggested that I attend this meeting.

The problem of waste disposal of any industrialized community is a large one, which in our present thinking, can only be solved by the establishment of dumps.

By an amendment to the Metropolitan Act 1953, in March 1956, Item 214 B, under Section 23,

> (1) The Metropolitan Corporation may pass by-laws for acquiring land, and erecting, maintaining and operating buildings, structures and machinery thereon for the purposes of dumping and disposing of garbage, refuse and domestic or industrial waste of any kind upon such land and charging a fee therefor.

The Report on Refuse and Industrial Waste Disposal for the Municipality of Metropolitan Toronto prepared by the Metropolitan Works Commissioner and Metropolitan Toronto Planning Board of May 28th, last, proposes a plan of waste disposal in dumps spread completely across our metropolus, the factor of choice in their locations being of accessability within a radius of five miles and their long term use.

It is estimated by this survey that in the

next twenty-five years, in Metropolitan Toronto alone, we shall have to dispose of 36,500,000 tons of waste material in dumps. Acreas of 100 to 300 acres for the accumulation of (by definition of Bill 108) garbage, refuse, and domestic or industrial waste of any kind, in seventeen presently indicated sites with power given by Bill 108 to add to their number at any time. The survey indicated the sites chosen to have a varying potential life span up to 54 years.

Inherent in the operation of dumps is dust, smoke, fly ash, gases and odours. On a scale of the above magnitude there must be legislation providing protection to those whose living and working areas they will adversely affect. The greater trend to urbanization in Ontario should make every representative to the legislature realize that this problem of air pollution from dumping operations should be the concern of every constituency.

Not only is this a problem in urban communities. Agricultural lands of suitable nature are being used for dumping operations which is indeed a method of disposal presently used by some industries and municipalities.

So that you will not estimate my concern of

this facet of air pollution as taken without study of the problems, or an evaluation of the degree to which dumps contribute to air pollution as a whole, I have sought enlightenment from the reports of the Indiana Waste Conferences; the California survey, Clean Air for California; U.S. National Research Center, etc.

Mr. Macaulay in the debate on February 16, 1955 brought to the attention of the Legislature the amount of soot, etc. being imposed on his own riding, and the number of industries exempt from any control. It is unrealistic to amend legislation to collect fly ash in stack dust collecting systems in Mr. Macaulay's riding to transfer it in trucks to dump sites, subject to similar wind and atmospheric conditions, say, in Mr. Lewis's district.

From all the information which I have been able to secure, it would seem that everywhere where pollution studies have been undertaken, the pollution from dumping has been considered of major importance, and controls included in subsequent legislation, an example of this being the report on California followed by prohibitive laws in Los Angeles County. Incidentally, in the report mentioned there are photographs of dumps which are ringers for certain operations existing around Metropolitan Toronto.

Since being notified of this meeting, I have written to numerous research centres, foundations, etc. for information on effective control measures of air pollution from dumps. Due to the limited time, I have yet to hear from many. I should appreciate an opportunity to let the Committee have any material which is sent to me as a result of these enquiries.

F. Edna Gardner

(Mrs. James A. Gardner)

R.R. # 1,
Weston, Ontario.

THE CHAIRMAN: Is there anything you would like to add to that, Mrs. Gardner?

MRS. GARDNER: Well, I am not an expert on this subject, by any means, and I cannot set myself up to say what controls are possible or should be instituted, but I do feel that Mr. Macaulay, Q.C. in his report, backed this up, I may say, from sources which I have been able to contact, such as Professor Allcut, and from the writings and the readings I have read and done, from different sources such as the Indiana Waste Conference and various other books which I have procured from the Highways Department, and the Hygiene Branch of the Department of Health of the province. And that is the information I have

secured to start with, as far as dumping is concerned.

MR. MACAULAY, Q.C.: Excuse me, Mrs. Gardner; What are some of the solutions? What are the alternatives, or what can we do in relation to dumping?

MRS. GARDNER: You mean as far as air pollution is concerned?

MR. MACAULAY, Q.C.: Yes.

MRS. GARDNER: Well, of course, incineration of a great deal of material at a high temperature, say from 1200 to 1500 degrees, so that you do not have the low temperatures which create smoke, and the smoking where refuse is dumped is very damaging as is adequately proven from the survey which came out from the Metropolitan Planning Board -- I did not get to the Board, but from the Works Commissioner.

The present method we think most acceptable is the sanitary fill method, where, in the United States, they also think it is the most acceptable.

MR. MACAULAY, Q.C.: What is a sanitary fill?

MRS. GARDNER: Where they take the garbage and waste and dump it, to perhaps a depth of two feet,

and there it is compacted with mechanical apparatus and then another load of fill put on top of that, and compacted, and another load, and so on. That is what we consider to be the best method.

But the Metropolitan Corporation feel the method is too expensive and too unwieldy. It means for a Corporation like Metropolitan Toronto, that they must have a large site or more than one, with available earth close by to cover it over. It is not only a matter of having a site, but a matter of having the earth with which to cover the fill, to prevent the smoke, dust and so on.

As I have stated in this paper (indicating), it is collected in one place and carried to another, where it might blow away and just create an iniquity in somebody'else's field.

MR. MACAULAY, Q.C.: I would hate to think, when I made my speech, that I had in mind collecting the dust in my riding and carrying it over to some place else.

MRS. GARDNER: I did not think of that at all.

MR. MACAULAY, Q.C.: You have obviously taken a great deal of interest and spent a great deal of time on this, and I am delighted you have done it. You did not just say, "We should have incinerators --

period", without speaking about the combustion.

One of the greatest offenders in the province of Ontario, as far as gases and smoke are concerned, is the city of Toronto, and from its own incinerators they are letting out large pieces of material, some of which are actually in flames when they land. I know of one occasion when they landed on the home of a constituent of mine, and if they are going to take this "holier than Thou" attitude, it is beyond considerati

I do not think this can be solved unless it is more intelligently administered than it is in the city of Toronto now.

MRS. GARDNER: All of the methods require a great deal of intelligence.

MR. THOMAS (Oshawa): The fill method is a very good method. I am living in the modern city of Oshawa, where they follow that practice. It is very effective.

THE CHAIRMAN: We thank you very much, Mrs. Gardner, for coming down. You have evidently put a great deal of time on this, and I am sure your suggestions will be very helpful to us.

MRS. GARDNER: Thank you, Mr. Chairman and gentlemen.

---The witness retired.

THE CHAIRMAN: Is Miss Frances M. Ashall here? (No response).

Mr. McGregor is here. Have you anything you would like to say to the Committee, Mr. McGregor?

MR. McGREGOR: I have nothing to say. I am just here as an observer.

THE CHAIRMAN: That is fine.

Then I note here the Canadian Manufacturers Association represented by Mr. G. C. Bernard, Manager, Ontario Division. Is Mr. Bernard here? (No response).

Is Doctor W. K. Cameron here from Weston?

DOCTOR CAMERON: Yes.

THE CHAIRMAN: Would you like to both come up, that is, you and Mr. Wardlaw, so that we can hear what you have to say.

MR. WARDLAW: I think Doctor Cameron can speak for both of us.

THE CHAIRMAN: Very well.

DR. W. K. CAMERON, M.D.

from the city of Weston, who appeared before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Doctor Cameron, we will be glad to hear anything you care to say.

A. By the way, in a letter I received, there was a petition in regard to the fumes from the Canadian Gypsum Company in Weston.

There (indicating) is the petition, dated June 3rd, 1953, with 300-and some names.

It is as follows:

"We the undersigned, owners and occupiers of property in Weston, do hereby submit this petition to the Council of Weston for the purpose of bringing to the notice of the said Council that the Canadian Gypsum Co. Ltd., 21 Oak Street, Weston, is emitting noxious, harmful odours and fumes from their chimney. We respectfully request that said Council take whatever action may be necessary to eliminate this nuisance."

BY MR. MACAULAY:

Q. What does the petition have to say? It is a petition from whom to do what?

A. It was presented by the Town Council of Weston in 1953 and requested that something be done to alleviate the fumes from the Gypsum plant in some way, either by raising the stacks or putting in some equipment.

Q. What company was it about which complaints were made?

A. The Canadian Gypsum. It is actually an American firm. It is the United States Gypsum, with a subsidiary in Canada.

BY THE CHAIRMAN:

Q. Doctor Cameron, if you would like to sit down for a moment, we will ask our Secretary to read the little correspondence we have, and then perhaps the members of the Committee will be a little more familiar with the matter.

DOCTOR EVIS (Secretary): Here is a letter from Dr. W. K. Cameron, M.D. It reads as follows:

"Dear Sir:

I am writing you to register a complaint about the very obnoxious smoke and fume problem we have here in the northern part of the town of Weston.

The Canadian Gypsum Co. on Oak Street pours out sulphur fumes almost continually day and night as it carries on its smelter-like processing of rock wool insulation.

In 1954 I had a petition drawn up and signed by three hundred adults which was presented to the town council. We received their support and that of the local board of health but they were apparently powerless

to do very much to rectify the situation.

I hope you and your committee can help us.

Yours truly,

(signed) 'W. K. Cameron, M.D.'"

We replied to that letter as follows:

"Dear Dr. Cameron:

The Chairman of our Committee has asked me to acknowledge and thank you for your letter of September 1st, in which you register a complaint about the air pollution in the northern part of Weston. Your letter will be brought to the attention of the whole Committee when it meets next week.

On Tuesday morning, September 11th, the Committee will be holding a public hearing in Committee Room No. 3 of the Parliament Buildings in Quenn's Park from 10.00 a.m. until 12.30 or 1.00 p.m. If you, or any of your neighbours, wish to appear in person before the Committee on that morning to make a more detailed representation about your air pollution problems, you will be most welcome. Perhaps you might be able to prevail upon your representative on the Town Council to pass on to our

Committee the 1954 petition which you mention.

The members of our Committee will have to convince the Legislative Assembly that strong air pollution control legislation is required in Ontario, and the more evidence of its necessity they can accumulate the easier their job will be.

Thanking you for your interest."

MR. BRONSTEIN: May I ask a question, Mr. Chairman?

THE CHAIRMAN: Yes, certainly.

BY MR. BRONSTEIN:

Q. You said the Council received this petition and was sympathetic?

A. Yes, that is right.

Q. But you went on to say that the Council was unable to do anything about it?

A. Yes. They apparently were short of authority, At least, that was the answer I received.

Q. Does Weston have any air pollution by-law?

A. They did not at that time, but they have since adopted the city's by-law.

Q. How long ago did they get the city's by-law?

THE CHAIRMAN: They never had a by-law until

January, 1956 -- on January 1st, 1956 -- when they came into the Metropolitan scheme.

BY MR. BRONSTEIN:

Q. Could they not have had one before?

A. Yes.

Q. So it is not right to say they could not do anything about it? However, they sympathized with you?

A. That is about it.

Here (indicating) is a letter I received about the same time I wrote to the Board of Health.

BY MR. ELLIOTT:

Q. How long has the Gypsum Company been operating in Weston?

A. I can tell you that, too. I have it down here.

We find the original Gypsum Company was destroyed by fire in January, 1945, and in 1946, the Building Inspector issued, in accordance with the Building By-law, a permit to build a new factory. The new factory was built in 1946.

Q. In other words, they have been there for years?

A. For a period -- three or four years, prior to the fire.

Q. Since about 1943?

A. About that. I would say at least fifteen years after most of the houses in the area were built. They came there fifteen years after their neighbours.

Q. But the houses were built, and the people moved in, knowing the plant was there?

A. No. The people lived in the houses first, and the plant was built afterwards.

Q. The houses have been there for longer than fifteen years?

A. Yes, much longer. I would say from twenty-five to forty years. The plant was built since the houses. I would say that at least 90 per cent. of the houses were built previous to the factory.

BY MR. BRONSTEIN:

Q. What is the area designated?

A. I really do not know, to be honest with you.

Q. Is there an urban development by-law or restrictive by-law there as to zoning?

A. I would say that the byplaws have not been very adequate in the town.

BY MR. THOMAS (Oshawa):

Q. They have not been enforced at all?

A. Apparently they did not have a smoke by-law at all at that time.

BY MR. MACAULAY, Q.C.:

Q. What date was that again -- the date upon which

you presented the petition?

A. 1953.

Q. Apparently municipalities under 100,000 did not have the power until 1954 to pass a smoke by-law. Apparently that is so. So there must be some justification in your municipality not having it at that time.

THE CHAIRMAN: I would suggest we hear the letter to which Doctor Cameron referred. Maybe that will explain it.

THE WITNESS: First of all, here is the letter we received from the local Board of Health. It reads as follows:

"Dear Sir:

The communication dated June 1st, 1953, which you forwarded to Dr. F. D. Cruickshank as Chairman of the Local Board of Health, was referred by Dr. Cruickshank to Mr. G. Harvey Hand, Chairman of the Board.

The Board of Health considered the letter at its meeting held on the 24th instant, at which time the writer was directed to acknowledge the same and to inform youthat the Board is in sympathy with your complaint and fully spports any action taken by the Municipal Council in regard thereto."

My letter to them was as follows:

"Dear Chairman:

I am writing this letter as both an appeal and a protest. The part of the town north of Church St. is continually sickened by the foul fumes of the Gypsum plant. This town is being disgraced by this dirty factory.

It is claimed these fumes are harmless and yet it can get the signed names of dozens who suffer from burning nostrils, headaches and nausea, the writer included.

Mr. Crocker of the Canadian Gypsum claims these fumes are exempt from the anti-smoke by-law because it is only steam and not opaque. We all know that some of the most deadly gases are colourless, white or yellow and therefore by the same token exempt from the said by-law.

Fumes are fumes whether they are mixed with steam vapour or black smoke and should be all treated as such.

The only way to quickly rectify this situation is to insist on a much higher chimney which will carry it further so as it can rarify in the atmosphere.

Can't something be done to rectify this

state of affairs rather than just empty promises and investigations."

BY THE CHAIRMAN:

Q. You are a medical doctor?

A. That is right, yes.

BY MR. MACAULAY, Q.C.:

Q. I understood you to say that you wrote:

"Mr. Crocker of the Canadian Gypsum claims these fumes are exempt from the anti-smoke by-law because it is only steam and not opaque."

So you must have a by-law.

A. He was referring to the city by-law.

Q It did not extend to Weston?

A. No, but I referred to it at one time with him, and suggested we should get one, and he said it would not apply.

Q. He says "it is only steam"?

A. Yes, he says "it is only steam, and not opaque".

Then I also said:

"The only way to quickly rectify this situation is to insist on a much higher chimney which will carry it further so it can rarify in the atmosphere."

BY MR. MACAULAY, Q.C.:

Q. We know that. But you understand, of course, that by increasing the stack, the pollution would just be spread that much further around the country. In fact, you say "insist on a much higher chimney which will carry it further so it can rarify in the atmosphere".

MR. THOMAS (Oshawa): They had a very high stack at Sudbury.

THE CHAIRMAN: Yes, it was the height of the stack at which we were amazed, when we were at Sudbury.

MR. THOMAS (Oshawa): That was owned by the International Nickel Company at Sudbury. Up there, they have a stack I think which is over 600 feet high, while this one is only perhaps less than 100 feet.

THE CHAIRMAN: The Committee does not seem to "go along" with the idea that the height of the smoke stack has anything to do with air pollution. They have one at Sudbury which is 621 feet high. That does not mean a thing. It only means that the damage does not occur so close to the plant, but that the farms at a distance in the area are being bothered, while those which are close-by are not.

THE WITNESS: As you know, the town of Weston lies in a valley; Downsview being 100 feet higher, and Etobicoke being 75 feet higher. I take it that

this was the slip stream of the valley.

It is too low to permit of very much dispersion.

There is one thing I would like to say. It stands to reason that if the pollution is spread for five files, it would have probably one-tenth of the concentration it would have, it it fell within, say, 600 feet.

MR. MACAULAY, Q.C.: We are in sympathy with you, I assure you. It was just more or less of a joke.

BY THE CHAIRMAN:

Q. What have they done to help you?

A. They have claimed they have had studies on it. They had an engineer there from the University to see what could be done, but they have not been able to solve the problem.

BY MR. MACAULAY, Q.C.:

Q. What is it? What is the stuff they are putting out?

A. Sulphur dioxide.

Q. Is that all?

A. Hydrogen sulphite.

Q. Is that all?

A. I really am not just certain.

MR. MACAULAY, Q.C.: Do you know the chemical components, Mr. Belyea?

MR. ELLIOTT: Have you had a chemical analysis made?

MR. BELYEA: No.

THE CHAIRMAN: Are they exempt under the present law?

MR. BELYEA: I do not think so.

THE CHAIRMAN: Why cannot we do something about it?

MR. BELYEA: I think we can.

THE CHAIRMAN: In a telephone conversation with Doctor Cameron, I said that the solution would be when the Metropolitan government took over the air pollution and smoke abatement jurisdiction for the Metropolitan Area, which will include Weston.

MR. MACAULAY, Q.C.: They have done that, Mr. Chairman, have they not?

THE CHAIRMAN: In fact, they have, but only as of the 1st of January, 1956, and it has taken a while to get the large programme organized.

I think that is the answer to your problem, Doctor Cameron. Instead of dealing with the local Weston people, you will be dealing with the Air Pollution Advisory Committee of the whole Metropolitan

Area, and if they see any exemptions under the existing law, they are there by local law.

MR. MACAULAY, Q.C.: I think you should lay a complaint now, Doctor Cameron.

MR. ELLIOTT: That should go to the Metropolitan Area.

MR. MACAULAY, Q.C.: The Metropolitan Air Pollution Board.

MR. ELLIOTT: Is there such a set-up now?

THE CHAIRMAN: Yes.

MR. ELLIOTT: They could communicate with that Board then.

BY THE CHAIRMAN:

Q. Have you communicated with the Air Pollution Advisory Board?

A. I think Doctor Cruickshank sent a man up to investigate the factory.

Q. When was that?

A. Two or three months ago.

Q. Is it as bad in the summer time as in the winter?

A. It is worse in the summer.

BY MR. ELLIOTT:

Q. The weather is hotter, and people have to keep their windows open?

A. That is right. In the summer there is an inversion and in the winter time it is lifted a bit.

I have clippings here from the local paper with regard to the discussions on it. It made the headlines quite a few times.

BY THE CHAIRMAN:

Q. One of the things we have learned in our studies, Doctor Cameron, is that we have found there are certain industries which are under the law, but they can skim around the law. We have a term for them; we call them "bad mannered". It is the same as if your neighbour threw his garbage onto your lawn.

If this industry is not exempted under the law, I know the new Metropolitan Air Pollution Department can prosecute them to the fullest extent of the law, if they do not co-operate.

MR. BELYEA: I may say that while they may not be exempt, before the Metropolitan Department can take action, they still have to broaden their by-law. The present by-law only covers combustion processes. They will have to broaden it to cover industrial processes as well, so it may be a short while before it is broadened, and then they can prosecute.

MR. ELLIOTT: Is the Metropolitan Committee asking for amendments?

MR. MACAULAY, Q.C.: They have the power now to cover industrial emissions, but it is their own by-law which does not cover it, but they have the power to do it. You say that only combustion is covered at present, Mr. Belyea?

MR. BELYEA: That is right.

MR. MACAULAY: And any industrial waste in the air?

MR. BELYEA: There is a section of the Act on "Nuisances", but they have not taken advantage of that as yet.

THE CHAIRMAN: I think, in order to be fair to the new Metropolitan Air Pollution and Smoke Control Department, they have only been in existence since January 1st, and they have a tremendous job to do, and I think we should give them ample time to become organized, so that they can do a proper job. I think, Doctor Cameron, they will come up with a solution to your problem before too long.

THE WITNESS: I have spoken to Doctor Berry many times about this since 1953 -- as a matter of fact, even this year, and he told me that the legislation today just did not have the teeth to do anything with this type of nuisance. He said the only way you could possibly do anything about it

would be for a civilian -- a private individual -- to instigate an injunction against them.

THE CHAIRMAN: I think I can assure you of this, Doctor Cameron, and I feel I am speaking on behalf of the other members of the Committee, when I say that by the time we finish our final report, there will be suggested amendments to the present legislation which will enable them to put "teeth" in them, about which you were speaking.

THE WITNESS: That is the main reason I am down here. I feel that Doctor Berry has found there are not enough teeth in the smoke-control by-law at the present time -- he obviously is in a position to know -- and we should change them.

THE CHAIRMAN: We will put them there.

THE WITNESS: Thank you, Mr. Chairman.

THE CHAIRMAN: Are there any other questions any member of the Committee would like to ask of Doctor Cameron?

BY MR. MACAULAY, Q.C.:

Q. Is this a highly-industrialized area, or is this industry just a sort of a "sore thumb" sticking up from an otherwise intact hand?

A. It is one of the major industries in the north end of Weston.

Q. But you do not know, in fact, whether you have a zoning by-law?

A. No, I realize that.

Q. Is this located in a valley?

A. The town of Weston is in a valley.

Q. This industry is up above the valley?

A. No, it is not. It is within 150 yards of the main street of Weston.

THE CHAIRMAN: If there are no further questions, Doctor Cameron, may I say that we appreciate what you are doing, and we will take some action on it before very long.

THE WITNESS: I have a large sheaf of letters all complaining about the same thing.

BY MR. MACAULAY:

Q. What is your medical opinion as to whether that emission is harmful to health?

A. My opinion is that anything that is very noticeable to you when you are outside and breathing it, that is, if it is obnoxious, it will not be very pleasant --

Q. Let us "get off the horse " now, and just answer my question. That statement is too far-fetched.

A. If you have a smell that bothers you, and burns your nostrils, I would feel that is not very healthy living.

BY MR. THOMAS (Oshawa):

Q. Does this emission do that?

A. Very definitely. It burns, and has an unpleasant smell. Everyone knows what hydrogen sulphite smells like.

BY MR. MACAULAY, Q.C.:

Q. It burns your mouth and eyes and nose?

A. Your eyes mainly.

Q. Do the eyes water?

A. No; it gives a burning feeling in your nostrils I have had letters from citizens saying it does that.

Q. Would you also say medically that it is injurious to one's health?

A. The percentage of sulphur dioxide is lower than that indicated to be injurious to health. But, like anything else, if you have an inversion problem, it can accumulate at certain times, and become concentrated enough so that it will be injurious.

After all, we all know what happened in London where 3000 people died from sulphur dioxide fumes, the very same chemical.

Q. So, on a very bad day, without much stirring by the wind, you say it could be caught in a sort of a pocket and be very dangerous?

A. It certainly could.

Q. Do you say that -- yourself?

A. Yes, certainly. Any accumulation of the sulphur dioxide over a certain position is dangerous to health.

BY THE CHAIRMAN:

Q. In other words, the two or three days we had here at the beginning of the Exhibition could be disastrous? It is the same type of thing they had in the States and in England?

A. Oh, yes.

Q. Precisely the same stuff?

A. Yes.

BY MR. ELLIOTT:

Q. How many employees have they?

A. I am in a good position to say. I am not saying this just to be facetious, but after I sent in the petition, they approached me to do their factory medicals for them, and their Compensation Board work, and I told them at the time it would not affect my opinion of their smoke.

Q. How many employees are there?

A. About one hundred.

Q. Are they troubled in regard to their health? They are working right in the plant.

A. Yes. They have a real revolution on that.

First of all, 90 per cent. of them I would say -- because I do their medicals -- do not live in the town of Weston, including the factory superintendent.

Secondly, 75 per cent. to 80 per cent. are new Canadians who have just come here from Malta.

And, thirdly, there is at least 25 to 30 -- sometimes even more than that -- out of 100, who change every year.

Q. In other words, it is not permanent employment?

A. No.

BY MR. MACAULAY, Q.C.:

Q. And, fourthly, would you say these fumes are found on the premises of the plant to the same extent they are put in the area around the plant?

A. I think the plant has fumes -- definitely.

BY MR. THOMAS (Oshawa):

Q. But with ventilation and forced draft, it would take a great deal of that away?

MR. ELLIOTT: It would be worse in the plant.

BY MR. MACAULAY, Q.C.:

Q. Is that so, or is it worse outside? Is that what you say?

A. The plant definitely has fumes in it, all right, but the length of the term of employment is very short.

Q. To put it in Latin, "volenti non fit injuria", that is, that he who invites the risk can take it. If they want to work under those conditions, they can. They get paid for it. But the residents do not get paid for it.

A. The employment situation there is very moving. They come in and go out all the time. I see at least 30 or 40 new ones every year.

Q. Have you examined any of them and found them to be suffering from poisoning?

A. I see them when they start working.

BY MR. ELLIOTT:

Q. You have none who are your patients?

A. I see them when they commence working, to see if they are physically fit when they start to work.

BY MR. MURDOCH:

Q. Do you know of any claims on the Workmen's Compensation Board due to their work in this plant?

A. No.

Q. You suspect they just change jobs if they

cannot "take it"?

A. Yes.

Q. And 30 per cent do each year?

A. Yes. But, as I said before, most of them who are sticking it there at all are new Canadians, most of them Maltese.

Q. Is there any significance to their being Maltese?

A. After all, they come from a country with a much lower standard of living, therefore, they can stand more, I would think -- put up with more.

BY MR. ELLIOTT:

Q. They can put up with more. I would not think they could stand any more.

A. If they are used to a lower standard of living, I would feel it would be easier for them to put up with a situation like that.

BY MR. MACUALAY, Q.C.:

Q. Where do these employees live?

THE CHAIRMAN: In High Park riding.

THE WITNESS: Most of them in the city of Toronto. 90 per cent. of them do not live in Weston; I will tell you that.

MR. MURDOCH: I would like to congratulate Doctor Cameron for the real interest he has been taking

in the question of air pollution in the area in which he lives. It is good to find a private citizen, who has nothing to gain, and perhaps a great deal to lose, taking such an interest in a subject of this kind.

I would like the Doctor to overlook the type of cross-examination by one of our members.

However, there is no harm in it. He is a lawyer, and that is the way he asks questions.

---The witness retired.

THE CHAIRMAN: I understand Mr. Hall is not here yet. Nor is Mr. Bernard from the Canadian Manufacturers Association, Ontario Division.

I see that Mr. Bennett is here from the Foundry Association.

MR. BENNETT

appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Mr. Bennett, we will be glad to hear anything you wish to say.

A. Gentlemen, I will not take up much of your

time. I am representing the Grey Iron Foundry of the Canadian General Electric.

BY MR. ELLIOTT:

Q. Is that the one in Toronto?

A. Yes.

Q. The old Allis-Chalmers plant?

A. Yes, in the northwestern corner of the city, near Davenport Road.

I am not authorized to represent the Society but I am a Director, and will be carrying the information back to them.

As you know, there is presented a rather technical problem. The foundry was built about 60 years ago in an open field, and at that time they were not worried about what came out of the stacks. It is not impossible that complete air-pollution control may mean we will have to start all over again with a new foundry. I am not saying that will be necessary, but the physical location of our furances may not permit us to realize full control where we are, but may require very, very large changes.

I want you to know that we have a sense of public responsibility; we do not want to be classed as "bad mannered"; we would like to be constructive. But we are anxious to feel secure in our long-range planning. From an industrial point of view, we

want to be progressive.

Certainly our foundry has a plan of expansion which is going to require a fair amount of capital investment in the next few years, and we will wish, as much as possible, to feel secure that our plans will be realized.

I am here this morning, not to present a petition, but to listen in at your hearing, and to let you know that we will be glad to assist and co-operate in any way we can with you.

We also would like to keep up to date on the work you are doing.

BY THE CHAIRMAN:

Q. Have you had any complaints in your area from citizens?

A. Yes, sir, we have had complaints in our area.

We have suffered from the same troubles that I guess different firms in Weston do, although perhaps not to the same extent, but we are at the bottom of a hill. I am not a meteorologist, but I suspect we are subject to inversion, and I suspect that coming down the Lansdowne hill we are subject to inverstion at times, and we have complaints from the people on the hill.

Q. What kind of fuel do you burn there? That

will give us an idea of what kind of air pollution elimination equipment you may have installed in the foundry now.

A. We are burning the best grade of coke we can obtain. We are using standard fuel for a cupola.

BY MR. MACAULAY, Q.C.:

Q. What is it?

A. It is a very hard coke, made from select coal. It is a coke somewhat harder than you can burn in domestic installations.

Q. What is the name of it?

A. It is called foundry coke.

Q. From whom do you purchase it?

A. From the Summit Solvay.

Q. Where are they?

A. In Detroit. Also, from the LaSalle Company in Montreal, and the Hamilton By-Products in Hamilton.

Q. Is it all the same kind?

A. Today all the sources are good. There have been times -- five years ago -- when they were not as good.

BY MR. BELYEA:

Q. Do you pay a higher premium to get your low sulphur coke?

A. Today we pay the premium to get the best coke, but all these sources have good coke.

BY MR. THOMAS (Oshawa):

Q. Under the present regulations, you are exempt, and you do not have to do anything, but I am not sure you could not do it. Has your Company done anything at all about the complaints, introduced any mechanism or installed any machinery which would alleviate the situation?

A. We have done a little, and we can see immeasurable results from what we have done. We study all our material going into our furnaces to make sure it is not contaminated with oils and such things, which would cause smoke.

We are carefully considering the method of handling the lighting of the cupola, and are taking special techniques to reduce the smoke to a minimum.

But, to be honest, I feel these things are more token than a real solution. I am not too certain that we have the space in which to put the facilities in our cupola to do a complete job. We are writing now to some consultants in Los Angeles to see if they have any further suggestions.

BY MR. MACAULAY, Q.C.:

Q. How long have you had complaints, Mr. Bennett?

A. Our complaints have been somewhat restrictive. We have had numerous complaints from one person.

Q. That often happens.

A. They have been occurring for the last few years.

Q. Not before that?

A. To my knowledge, not before that.

Q. That area has not been built upon recently? How do you account for the fact that nobody complained until a few years ago.

A. I think perhaps we are not that bad. I think that is the real answer. I do not think we are the worst source of smoke in the city. However, we are operating cupolas, and I would not pretend they do not smoke. They do. I do not think we have any serious or peculiar problem in our operations, which makes us the most serious case in the city.

Q. How many cupolas have you?

A. We have three, of which not more than two are operating on any one day; generally, it is only one.

Q. How many hours a day?

A. They are operating eight hours a day.

BY THE CHAIRMAN:

Q. Is there any part of your operations you would consider not within the local smoke-abatement by-law?

A. I am sorry, I would rather not answer that

question,because I honestly do not know. I understand our cupolas are exempt from the smoke-abatement by-law.

Q. Your cupolas are exempt from the smoke-abatement by-law?

A. Yes, so I understand. However, I am not certain, but I would not, in my thinking, think this would be a permanent thing, and therefore, in our long-range planning, I am interested to follow the work of this Committee so I can co-ordinate the findings and relate the findings which may be laid out.

BY MR. MACAULAY, Q.C.:

Q. Did you sau it was not a permanent thing?

A. Yes.

Q. So you anticipate that some time likely your cupolas will be brought under the smoke-abatement by-law?

A. Yes, sir.

BY MR. THOMAS (Oshawa):

Q. Would that create a hardship?

A. It may mean that our foundry will have to discontinue. That is how serious it is.

BY MR. MURDOCH:

Q. Are you putting out a dense smoke, or fly ash or fumes, or perhaps a mixture of all of them?

A. I think it is the smoke. We do not have any quarrel with the smoke you can see.

BY MR. ELLIOTT:

Q. It will be on the days when the air is heavy?

A. Yes. For instance, a week ago we did have a rather bad time.

Q. Days like today, for instance?

A. Yes, perhaps.

BY MR. MACAULAY, Q.C.:

Q. What about closing on bad days? When you say you "had a rather bad time", what do you mean by that?

A. I suppose 95 per cent. of the time our smoke goes sufficiently straight up, so that from the point of view of dust, it has no effect whatsoever. It adds to the combined total in Toronto, of course.

It is only on perhaps four or five days that it is observable in a distance.

Q. Could you not close on those four or five days?

A. I think I can say that would be very nearly impossible.

Q. Very nearly possible?

A. Impossible.

Q. My friend, Mr. Murdoch, asked you about the contents of the smoke, and he asked you about fly ash. Is there much fly ash in it?

A. I would rather have Mr. Belyea answer that. There is fly ash there, but in regard to the term "how much" - - -

MR. MACAULAY, Q.C.: Mr. Belyea, would it be a large percentage of fly ash, or a small percentage?

MR. BELYEA: It is extremely fine, and does not settle as rapidly as emissions from a combustion unit.

However, that type of selector is extremely expensive. I think what Mr. Bennett is concerned with is if they have a similar plant to that which they have in Los Angeles, the cost of installation would be very high. I would say that to equip that foundry would cost something around a couple of hundred thousand dollars.

BY MR. MACAULAY, Q.C.:

Q. What would be the gross sales of your factory?

A. From $1½ million to $2 million per year.

MR. MACAULAY, Q.C.: How long would that equipment last?

MR. BELYEA: For five or ten years.

BY MR. MACAULAY, Q.C.:

Q. Is it safe to say you have spent no money on smoke abatement?

A. No sir, it is not. We have spent money wherever we have felt we could get some results.

For instance, we very often buy the more expensive raw materials than is customary on the market.

MR. BELYEA: This Company requires a little sympathy, because it is in perhaps the most competitive industry in the province, working on a very low margin, and this foundry, while it may not have done a great deal, has done as much as anybody else; at least, nobody has done any more.

BY THE CHAIRMAN:

Q. Where is your main foundry, in the States?

A. We have them spread across the United States.

Q. Not in Pittsburgh, for instance, nor Philadelphia?

A. No; most of them are in the smaller communities

MR. BELYEA: The margin of profit is so low, that if they spent a quarter of a million dollars, they would not be able to continue.

MR. THOMAS (Oshawa): They are all in the same boat?

BY THE CHAIRMAN:

Q. Can you give us any idea, Mr. Bennett, of how much your foundry has spent on equipment?

A. Our main spending, I would say, is largely in the selection of raw materials.

We have spent a little on equipment. For instance, we have a torch for lighting the equipment, but I am speaking there in the neighborhood of only one thousand or two thousand dollars.

Q. You have a torch for each cupola?

A. Yes.

Q. That is to get the heat on quickly?

A. Yes.

Q. How high do you get the heat?

A. I think that is a misleading question. It gets it up to 2000 degress, but that is the point of contact temperature. The cupola furnace is a little different, and I cannot really answer the question.

THE CHAIRMAN: According to the report we had from our engineer, the coke is burned at 1123 degrees, Fahrenheit, so if they are burning it at 2000 --

THE WITNESS: This is at the point of contact.

BY MR. MACAULAY, Q.C.:

Q. What do you get up to when the coke first meets with the fire that is going to burn it? At what degree is your coke then?

A. I wish I had a blackboard. I could illustrate it better. Actually, what we are doing is

melting iron, and that comes out of the furnace at 2300 degrees Fahrenheit, and our coke is around 3000 degrees.

Q. How long does it take to get your coke up to 3000?

A. 20 minutes.

Q. And all during this period, have you your lighter underneath it?

A. No, the lighter would not be under there, once the coke is ignited. I would say about 1500 degrees.

Q. You get it up there until there is combustion?

A. Yes.

Q. How long does it take to get combustion?

A. Maybe a period of two hours -- from one to two hours.

Q. If it takes only 20 minutes to get up to 3000 degrees, why does it take two hours to get it to combustion, which is about 1100 degrees?

A. It takes two hours to light the cupola, and burning the coke bed through until it is uniform at 1500 degrees.

We are performing a metallurgical function. We are drying out the cupola which is built to stand the melting operation for an eight-hour period.

If we attempted to get the coke up and nothing else, the period would be much shorter.

THE CHAIRMAN: That is very fine, Mr. Bennett. Are there any further questions anyone wishes to ask of Mr. Bennett?

We know that your Company in the States has spent a considerable amount on this problem, as we found in the places we have visited.

BY MR. MACAULAY, Q.C.:

Q. If you are paying an extra amount for your coke, if you introduced some of the air-pollution equipment, could you not use cheaper coke, and in the long-run would they not, at some time,balance off?

A. No, sir. We purchase a premium scrap, as it is called, and we purchase a good quality in order to get a good quality metal.

Q. So the purchase of the coke is in your own interest?

A. That is right.

THE CHAIRMAN: Thank you very much, Mr. Bennett.

---The witness retired.

THE CHAIRMAN: Is Mr. G. J. Hunter, Secretary-Treasurer of the Etobicoke Civic Advisory Committee present? (No response).

They sent in a brief and perhaps our Secretary would read it, for the information of the members of the Committee.

DOCTOR EVIS (Secretary): The whole brief?

THE CHAIRMAN: No, the letter attached to it. We will file the brief as a part of the record.

DOCTOR EVIS (Secretary): This is a letter dated January 25th, 1956, addressed to myself, and it reads:

"Dear Dr.Evis:

I want to get this in the mail to you, hence the longhand note.

Enclosed are two copies of a report on Air Sanitation which was submitted to E.C.A.C. at our October meeting.

Would you arrange for some time to discuss this report at one of your forthcoming meetings?

Thank you.

Sincerely,

(signed) 'G. James Hunter'."

And he encloses their report. Do you want it read, Mr. Chairman?

THE CHAIRMAN: No, but it will be included in the minutes, if that is satisfactory.

---Whereupon the report enclosed with the letter from Mr. Hunter was admitted in evidence, made a part of the record of these proceedings, and is in words and figures as follows, to-wit:

"

REPORT ON AIR SANITATION

Submitted to Etobicoke Civic Advisory Committee
October 19, 1955

Purpose: This report is submitted in order that a fuller and more appreciative consideration may be given to the problem of legislation and enforcement of air sanitation ordinances.

Scope: In general the political aspects of air sanitation will be dealt with. Details of measurement and methods of removal of contaminants are better left to those more technically qualified. In this connection there are two highly qualified groups chaired by Toronto men - (1) the Committee on Atmospheric Pollution in Canada, chaired by Professor E. A. Allcut of the University of Toronto, and (2) the Toronto Air Pollution Advisory Board, chaired by Dr. A. M. Fisher of the University of Toronto.

In considering the problem, it must be kept in mind that, while it would be desirable to have absolutely clean air for everyone to breathe, we depend on industrialization for our existence.

History and General Comments: Consideration of air sanitation is by no means new. There are records of papers on the subject dated as far back as 1661.

Increasing industrialization of Canada and for that matter of our own community is bringing an increased awareness of damage inflicted on both people and property by atmospheric pollution. Many municipalities have enacted smoke abatement by-laws (Etobicoke Bylaw No. 9428 dated February 1955). These by-laws are better than nothing. They have brought about some reduction in pollution, but they fall far short of curing the problem. Atmospheric pollution recognizes no municipal boundaries; also, smoke is only one form of pollution.

In 1949 the Committee on Atmospheric Pollution in Canada was appointed. Its assignment was to study the problem and to draw up a moden ordinance which would cover all types of pollution and its control. The report of this Committee entitled 'Atmospheric Pollution in Canada' was published in the Engineering Journal, May 1951.

The chief recommendation of the Committee was that legislation be enacted to set up air

pollution control areas on a regional rather than a municipal basis. The report contained, also, a recommended draft for legislation covering in detail definitions, qualities of contaminants permissible, control indicators and administration of the by-laws.

It is the establishment of proper legislation which has the greatest significance at the present time. The Provincial Government have a select committee set up to study the problem. The Toronto City Council are blaming the Province for the present poor legislation. Metro are complaining of poor co-operation in control of air pollution in its thirteen municipalities. The results of a long-term survey on the Toronto area reveal that Toronto has a greater dust problem than the heavily industrialized city of Pittsburgh.

As of January 1, 1956, it is reported that Metro will take over atmospheric pollution control for Metropolitan Toronto. This is a step in the right direction (i.e. regional) but is it far enough?

Let us consider three pertinent developments: (1) To date railways have been exempt from the

by-laws. It is supposed that the shift to diesel will automatically remove the problem, but diesel is by no means smokeless and certainly the exhaust contains many contaminants (sulphur dioxide is one). This, however, is not all: it has been predicted by a C.N.R. official that coal-fired gas t urbine locomotives may some day replace diesel. Does this bring us right back to where we started?

(2) The St. Lawrence Seaway will make Toronto and other shoreline municipalities heavily loaded with coal-burning ships. Will the legislation give Metro any control over vessels approaching or leaving ports?

(3) To the west of Toronto we have large industrial areas developing. Pollution carried on the prevailing westerly wind can affect Metro. Will Metro have any control over these areas?

In view of these problems, Section VII, Page 6, of the report of the Committee on Atmospheric Pollution in Canada seems most appropriate.

Conclusions:

There appear to be four major considerations which require full support from everyone.

(1) That consideration be given by all levels of

government toward establishment of control areas of sufficient size to include all potential sources of contamination which can affect the area.

(2) That all levels of government need to promote public relations activities which will establish and maintain full public support for their activities in air pollution control.

(3) That scientific advice must be sought and followed by the legislative groups who are charged with the passing and enforcement of air pollution control by-laws.

(4) That adequate moneys must be made available for research and development of control measurement techniques, for administration of the by-laws and for educational promotion of air sanitation both to citizens and industry.

It is proposed that E.C.A.C. recommend to Etobicoke Council:

(1) That the Council of the Township of Etobicoke, through proper channels, endeavour to have the recommendations of the Committee on Atmospheric Pollution in Canada and the recommendations of the City of Toronto Air Pollution Advisory Board used as a basis for establishing an adequate atmospheric pollution control area for Metropolitan Toronto.

(2) That the Council of the Township of Etobicoke, through Metro Council, promote and support the expenditure of adequate moneys for establishment of public support for pollution control, for scientific development of control measurement techniques and facilities, and for administration of the by-laws which are enacted for control of atmospheric pollution as it affects Metropolitan Toronto."

THE CHAIRMAN: Thank you, Doctor Evis.

Has Mr. Hall from York Township appeared as yet? (No response).

Is anybody here from the York Township Council?

MR. D. C. MacDONALD, M.P.P.: If the representatives of the municipality are not here, I think there are two or three points which definitely come under the jurisdiction of this Committee, which I would like to raise.

THE CHAIRMAN: If you will come forward, Mr. MacDonald, we will be glad to hear from you at this time. We had a letter from Mr. Howard Hall.

MR. MacDONALD, M.P.P.: Yes, I was under the impression that the Township was going to present a brief this morning, otherwise I would probably have

what I have to say written, and in a more orderly and effective fashion. There are three items of interest in the county, township and related areas.

One stems from information given to you by Mrs. Gardner, with regard to dumps, and the problem of these areas as a contributing factor to air pollution, quite apart from the whole problem of dumping itself.

I think if one is to take a constructive approach to this, one cannot ignore the staggering problem created by the Metropolitan Area in disposing of its waste.

There are figures which indicate something like 50 million tons in the foreseeable future, therefore, the problem of how to dispose of it is a real one.

I attended a meeting of the Ratepayers' Council the other night, and I think I am correct in saying that their recommendation at the moment is that the solution now proposed was probably intolerable. I think I can convince the Committee of that, when I tell you that in this one on the Eglinton flat, right in Mount Dennis, which comes into my riding, the proposition is that for twenty-five years they will have it as an open dump.

BY MR. MACAULAY, Q.C.:

Q. Is that before the railroad tracks? Where

actually is this place on Eglinton Avenue to which you are referring?

A. Roughly at the end of Eglinton Avenue, as it hits the flats in the Mount Dennis area.

Q. West of Old Weston Road?

A. Yes, west of Old Weston Road. You are going to have a dump for a minimum period of twenty-five years. It will not be a sanitary fill proposition, but it is going to be an open dump, and it will not be only industrial waste, but also domestic waste. In fact, the Council of Ratepayers was informed that one of the main groups back of the effort to have this as a dump was the Canadian Manufacturers Association, and its related agencies.

Now, the answer obviously gets you involved in a problem of economics. There was thrown out to the Council of Ratepayers the suggestion that if they do as they have in New York and claimed to do in Los Angeles -- that is, put it on barges and take it out to sea and dump it -- probably the only solution is to put it on flat cars and take it up into the country, where there are swamp areas which can be filled.

But the people of this area are up in arms about having an open dump with no effort made to provide a sanitary fill, which is not only a problem of air

pollution, but a threat to health, and it has provoked in Mount Dennis the spontaneous emergence of a citizens' committee, which made representations to the North York Council last year, and not to the Metropolitan Council, but to its Works Committee.

Q. Who owns the land?

A. It is owned by an individual at the moment, and he, for understandable reasons, is anxious to get rid of it at a somewhat higher price, by it being bought for dumping purposes.

It is land which has now depreciated in value as a result of the experience of Hurricane Hazel, which "threw a monkey-wrench into the works" as far as he was concerned.

I do not know the answer.

BY MR. MURDOCH:

Q. Has any consideration been given to the collection of garbage and waste, and so forth, and burning it in huge incinerators, and taking the residue from these incinerators and dumping it into the dump? It will then become simply sterilized material.

A. That was considered. In fact, it was quoted that if 35 million tons was to be dumped there, such a system would reduce it by approximately 10 million tons, or I should say, down to 10 million tons.

BY MR. MACAULAY, Q.C.:

Q. There is no talk about handling 35 million tons there? That is only to serve a local area?

A. No. I was just coming to that. One of the problems which is exercising the local people a little more than normally is because the whole Metropolitan Area now will be seeking dumps to dispose of its waste, which may come from outside the Township and this looks like a real find for an area into which they can be dumping for twenty-five years.

It is becoming increasingly difficult to find places where you can dispose of any sizeable quantity, and here there is a natural hole in the ground in which they can dump for twenty-five years, and if one wants to take the easy approach, it has obvious attractions.

Q. What is the capacity of a fairly large incinerator? How many tons can it handle in the period of a year or a day?

MR. BELYEA: They can be built to any size.

THE CHAIRMAN: What was the size of the one we saw in Philadelphia, which was absolutely smokeless?

MR. BELYEA: I do not recall exactly; its capac was, I think, five thousand tons a day.

MR. MURDOCH: You could have a bank of them; you could have more than one.

MR. MACAULAY, Q.C.: Are they expensive? What is the cost of them?

MR. BELYEA: They are quite expensive to build.

THE CHAIRMAN: We have this information on file, and it can be operated without any offensive air pollution. We know it can be done.

THE WITNESS: This is a question of past experience which rather impressed itself upon me in the country townships.

A year or so ago, I had occasion to visit the area around the new Northwestern Hospital, and at first sight I was shocked at the proposal they would fill that valley between there and a neighboring number of cottages, and it seemed to me a rather strange proposition to do it on the edge of a hospital.

But as I watched it during the winter, it "added up". As it was being done in the winter time, the problem of more or less air pollution was somewhat minimized, and, secondly, it was being done on a pack-and-sanitary fill basis, and, thirdly, it was completed by spring.

BY MR. MACAULAY, Q.C.:

Q. Who did it?

A. I am not just certain, but I think it was York Township itself. That is one sort of use of a dump, and I think it may be a nuisance and a bit disagreeable, but the proposition now is to use the hole on Eglinton Avenue as a dump for twenty-five years.

Q. Is an incinerator, from a financial point of view, a practical thing?

THE CHAIRMAN: No. We have seen many incinerators in operation in the course of our studies, but this one particular affair to which I referred was in Philadelphia, which may be comparable in size to Metropolitan Toronto -- maybe not as large -- so their problem of the disposal of garbage is much the same as ours, and they do pretty well with their incineration there, with no offense to the neighbours at all. The trucks just pull in and dump it into the incinerators, and there is nothing coming out of the chimneys.

That may be the answer for Metropolitan Toronto.

MR. ELLIOTT: This type of dump is of about half the cost of incinerating. They do that in Hamilton, and it is working pretty good. They get an excavation and cover it properly. You see it right in the Dundas Valley.

THE CHAIRMAN: That is a great town, but not as large as Toronto.

MR. ELLIOTT: The area about which Mr. MacDonald spoke, would be about the size of Hamilton. They are not bringing the stuff from the city.

THE WITNESS: Somebody suggested the other night at this Council of Ratepayers' meeting that the cost involved in hauling --

MR. ELLIOTT: The cost was about 90 cents per ton, as compared with about 60 cents per ton for the open dump.

MR. MACAULAY, Q.C.: What about the compacting?

MR. ELLIOTT: It is compacted, yes.

MR. MACAULAY, Q.C.: What about them throwing it in, as Mr. MacDonald suggested?

MR. ELLIOTT: I do not think they would even consider that. I cannot imagine an industrial plant doing the very thing Mr. MacDonald suggests.

THE WITNESS: This is to be an open dump, of which Mrs. Gardner spoke.

MRS. GARDNER: The sanitary fill method, I think, was not suitable, because it needs earth to cover it, and their idea is to have a method whereby it can be put in --

MR. MACAULAY, Q.C.: Just thrown in -- period.

THE CHAIRMAN: They could get some good land up around Tobermory.

THE WITNESS: Somebody said because of the shortage of earth to fill sanitary dump requirements the earth would cost more than the dumping, including the trucks.

MR. ELLIOTT: That is why we are doing it the way we are in Hamilton.

MR. BELYEA: Then there also is the fire hazard. If a fire occurs in an open dump, it may cost more than an incinerator to put it out. They had one in the Humber which burned for three or four years, and the fire department was out there nearly every day.

MR. GORDON: That is true; they had a fire in Brantford, and the fire department was there every day.

MR. BELYEA: The purpose of the sanitary fill is not only to keep out rodents and other things, but to reduce the fire hazard.

They had a dump up on Eglinton, which was 75 feet deep, but they cannot use it now,either as a park or for a playground, because it settled two or three feet a year. It must be 75 feet deep for twenty-five years, but it will keep on settling.

MR. MACAULAY, Q.C.: It is an economic factor which does not include air pollution, because there is --

THE WITNESS: You are getting into my next point --

BY MR. MACAULAY, Q.C.:

Q. You will find we are very helpful here, Mr. MacDonald.

A. That is, with reference to the packing houses?I have had some representations made to me. I am no expert on the question of packing houses, nor how serious it can be to health, apart from it being an obvious nuisance.

Anybody who has driven by the packing houses on days when the atmospheric conditions were at their worst, does not have to be told how disagreeable it is.

I have met people from the area, who say that on certain days, with given conditions, it is so bad that people become sick, and there are instances of people vomiting on account of it.

MR. MACAULAY, Q.C.: How close do they live to that area?

THE CHAIRMAN: Oh, about six blocks.

MR. MURDOCH: And they vomit six blocks away?

THE WITNESS: Actually, many of the people are in my riding, and are in what is now "York-Humber".

Back in 1948, when they had that dramatic case in Pennsylvania, with atmospheric conditions which just seemed to pocket the industrial waste, they had 6000 people made ill, and 21 deaths, which is nearly comparable to the London experience on one occasion, and they came to the conclusion that something could be done about it, and I understand there are air-pollution engineers who are now incorporated into an association who have come up with a suggestion of what can be done.

I am not aware that anything has been done as yet. I know the packing companies are making a study of it, and, therefore, they are alive to the fact that something must be done, because at the Rate-payers' session, one of their officers happened to be a member of one of the associations, and had just come back from making a study of it. I understand this is within the jurisdiction of your Committee, and I think it is inestimable in terms of health, and it is a highly serious proposition, and I cannot see how it can help but have a serious impact on real estate values, and everything in the area, except with the present housing shortage situation --

MR. MACAULAY, Q.C.: Some people may like dirt. You can live with that dirt, but it inevitably destroys your standard of living. And who wants to live with it? Does that not drift over into High Park?

THE CHAIRMAN: The packing house industry is in High Park riding. I am familiar with it. We have discussed it, and it is due to the fact that the prevailing wind is from the west that we get a good part of it into High Park.

However, it certainly is not as bad as it used to be. I do not know whether you remember it there five or eight or ten years ago.

MR. MACAULAY, Q.C.: What accounts for that?

THE CHAIRMAN: I think the packing house people themselves have made some effort to eliminate that odour. But our Ontario stockyards have been enlarged by about one-half this year, and I am going to invite the members out to see it some of these days.

MR. MACAULAY, Q.C.: Where is that?

THE CHAIRMAN: Just south of the Canada Packers.

MR. MACAULAY, Q.C.: On the south edge of the road?

THE CHAIRMAN: Yes.

THE WITNESS: You have thousands of head of cattle passing across the street, and adding to the air

pollution when doing it.

MR. MACAULAY, Q.C.: That is run by the Department of Agriculture.

THE WITNESS: It was socialized by the Conservative Government in 1934.

MR. MACAULAY, Q.C.: I thought you would de-socialize it, in view of the Regina declaration.

THE WITNESS: I do not know the details, but I was under the impression your Committee had considered this before, and had run into a dead end, in terms of keeping with it, and that is the smoke abatement problem arising from the railroads in that area in the southern part of York Township.

If my information is correct, it has been taken up on occasion with the railway companies, and has reached a sort of legal "dead end" where you have to test the validity of certain legislation to see what can be done, and it might be well to lay a specific charge and take it to the courts to find out just what can be done.

At the moment it appears the railways are "sitting tight" until they are forced to do something, and until they are, nothing will be done. But again, along with the dump, and the air pollution from the packing houses, perhaps this problem is even ahead of

the packing houses.

THE CHAIRMAN: You may like to know that the Committee is meeting with the heads of the two railroads in Montreal a little later on.

Is that all you have to say?

THE WITNESS: Yes.

THE CHAIRMAN: We thank you for coming and making your presentation to us.

---The witness retired.

THE CHAIRMAN: Mr. Hicks, have you anything you would like to say to the Committee?

J. HICKS,

a resident of North York, appearing before the Committee but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Mr. Hicks, we will be glad to listen to anything you have to say to us.

A. Mr. Chairman and gentlemen; I came down here to address this meeting in regard to the odours coming from the packing house. I really expected to see some of the members of the Council here, but I do not see any of them.

THE CHAIRMAN: Your local members is "on the job".

THE WITNESS: Yes. Mr. MacDonald is from Ward 2.

As far as the smoke is concerned; we have been troubled for years with smoke.

You have your St.Clair Avenue Ratepayers Association, who have been talking about this smoke. I think you gentlemen have heard me on the smoke question before. I cannot add very much to what I have said. But I understand you have had people here who say that they could alleviate this smoke, by putting some appliance into a chimney.

Our Council have looked into this matter, and there is a man named Baxter, who invented some appliance, I think, and the Council went down and inspected it, and they said it was just the thing they would like to have. They put soft coal into his invention, and when it came out, it was odorless, and there was no smoke from it, and they were so "het up" about it, that Mr. Hall, our Reeve -- who, incidentally, has just got a new job -- was so enthusiastic about it that he said, "We will ask the Canadian Pacific if we can put it in".

They went to the Canadian Pacific and asked for the privilege of putting this in the roundhouse to test it, and the Canadian Pacific granted them the privilege of one engine, because it would have to be

over a locomotive, as the one they had seen before was a little too small for a good demonstration.

So they all got together, but when it comes to making this apparatus, it takes money to do anything -

MR. MACAULAY, Q.C.: We have heard the other side of the story.

THE WITNESS: There was $5,000. involved, and our township would not approve of $5,000. to make an experiment, and the Canadian Pacific had to be shown.

As I figure it out, this Committee was appointed by the hon. Mr. Frost's government to try and alleviate our trouble. All I know is he said there is so much money in your hands. I was down here about six months ago to see whether you could not get in touch with the Canadian Pacific Railway, and let us have some relief there.

BY MR. MACAULAY, Q.C.:

Q. Are you under the impression this Committee has any power?

A. You have the power --

Q. No, we have not. We can recommend that the government take certain action, but that is all. We have no money.

THE CHAIRMAN: May I tell you we are meeting

with the Presidents of the two railroads in Montreal very shortly.

THE WITNESS: I would like to say a little word about Mr. MacDonald. He spoke about a hospital. He said he was there when they were putting stuff down the grade. He said it was in the winter time, and there was not much odour. But when spring came, the people were aroused, and they came down to the Council -- that is, representatives of the Council of Ratepayers -- and they passed a motion asking the township government to stop it right away.

I went out and looked at it, and I walked in it, and I could smell my feet -- I can smell them often -- for three days afterwards.

BY MR. THOMAS (Oshawa):

Q. What is it like now?

A. They have stuff there; I do not know what it is.

BY MR. MACAULAY, Q.C.:

Q. Getting back to the point; you saw this experiment?

A. I did not. Council members saw it.

Q. They personally told you this?

A. They personally told me it was a success. They saw it on a small scale.

Q. Was not your township prepared to put up half the money, if the Canadian Pacific would put up the other half?

A. No. I think Mr. Hall sort of over-stepped himself, when he said they would put it on, but when he came before Council, they turned it down. I do think he acted in good faith.

Q. Do you think they turned it down because they were not interested, and did not want to spend $5,000. for a machine which perhaps would not work?

A. They could not raise the $5,000. We have two members who were expected to be here today.

MR. MACAULAY, Q.C.: Perhaps they could not raise the taxi fare to get here.

BY THE CHAIRMAN:

Q. Are you on the Council out there?

A. No, I wish I were.

Q. I certainly suggest that with this two-year term coming up, you get in there and fight.

A. I will certainly try.

---The witness retired.

THE CHAIRMAN: Is Mrs. George Klinck, Chairman of the Health Council, Local Council of Women, present? (No response).

Mrs. Weir, do you wish to say anything at this time?

MRS. HELEN WEIR: (Labour Progressive Party): Mr. Chairman, I will support anybody who will do anything about the terrible smell from the packing plant. I have done a great deal of canvassing in the community, and the people up there are very disturbed about the terrible odour. It is so bad, that it is making people sick at their stomachs. It might have been worse fifteen years ago, but it is bad enough now, and anything which can be done to devise some relief from that terrible odour, and also the smoke from the roundhouse, will be very much appreciated by all the citizens of the riding.

Perhaps some of them are off the edge of the riding, being up on Maria Street, and the smoke comes down there from the roundhouse, and people are complaining about it.

The worst problem is the packing house problem. It really is an obnoxious area.

THE CHAIRMAN: Thank you, very much.

---Mrs. Weir retired.

THE CHAIRMAN: Is there anybody else in the room who wants to say anything? Otherwise, we

will adjourn the meeting. We are waiting for a delegation from Hamilton, and we will adjourn until this delegation arrives, which should be in about fifteen minutes.

MR. BRONSTEIN: May I be permitted a question or two, while you are waiting?

THE CHAIRMAN: Certainly.

MR. BRONSTEIN: It is really enjoyable listening to the activities of this Committee.

When I entered the field, so to speak, I was not aware of this provincial Committee, and my particular "beef" -- if I may put it that way -- is regarding trucks and buses, and I am gathering information and hope to at least present something to the city of Toronto to obtain some temporary relief during the time this excellent Committee is completing its investigations, and to that end I would like to ask if this Committee has any files which I may study? There are one or two of them I would like to study.

The first one is propane gas. Has the Committee any information on propane gas used by buses, for remedying the fumes?

MR. MACAULAY, Q.C.: Our investigation is more along the line of what is made, than who makes it.

THE CHAIRMAN: We have no information on

propane gas, as to whether it produces less fumes than diesel oil.

MR. BRONSTEIN: There is nothing I could study?

THE CHAIRMAN: What about that, Doctor Evis?

DOCTOR EVIS (Secretary): I was wondering about the information given in Detroit.

MR. BELYEA: There is information about propane gas. It is used inside of factories, rather than using gasoline engines. It burns fairly clean, and keeps an engine in good condition, but it also can produce a dangerous gas. There is something known as "contaminants".

MR. BRONSTEIN: At the moment, Mr. Chairman, the city of Chicago has already converted over 1000 buses to propane gas.

THE CHAIRMAN: When was that done?

MR. BRONSTEIN: Just recently. The cost of it was about $240. each. The Chairman of the Air Pollution Authority in New York city has advocated the same method for use in that city.

THE CHAIRMAN: We are going down there in about a month, and we will find out about it then.

MR. BRONSTEIN: I have written to him, and he is a strong protagonist for propane gas for trucks

and buses. There seems to be some headway, because Chicago is already doing it.

The second thing is, is there any file on the action of the city of London, England, insofar as diesel buses are concerned? Is there anything which this Committee might have?

THE CHAIRMAN: No. In the Beaver Report, I do not think there is any mention of diesel fumes.

MR. BRONSTEIN: I might advise the Committee that there were a number of people wrote to me indicating that the city of London, England, passed a resolution some months ago that within three years all diesels will have to be out of the city of London. I cabled to London for confirmation of that, because at the moment, it is only hearsay. I have not the confirming facts, but I will convey the information to the Committee when it comes through.

Does the Committee have any information on vertical exhausts? I am studying those.

THE CHAIRMAN: Yes; I think if you check with our technical engineer, he will be glad to give you what information we have on that.

MR. BELYEA: We have not much on that. You are thinking of the extent of exhausts on diesels, above the level?

MR. BRONSTEIN: Yes.

MR. BELYEA: That has failed to work, because when the fire is put on, it shoots up, and spreads down on the people around it.

I have an idea of my own which I think should be tried.It is simply an opening at the bottom to allow the discharge of gases, and when the fire is put on, it will not go up. It may or may not work.

MR. BRONSTEIN: I would like to discuss buses with you for a moment.

Has any consideration been given by the Committee in connection with the complete elimination of motors? I am speaking of the T.T.C. buses -- the elimination of the motors, and substituting electricity?

THE CHAIRMAN: No; we have spoken about substituting steam, that is, coal-burning locomotives, with electricity, but we have not discussed the possibility of electrically-operated vehicles. A goodly proportion of our buses are electrically driven now.

MR. BRONSTEIN: But the major number are not. You may feel I am labouring the question of buses, but it was amazing to me, in the replies I received --

THE CHAIRMAN: How many did you receive?

MR. BRONSTEIN: I received 140 letters --

THE CHAIRMAN: Are they people who live on bus routes?

MR. BRONSTEIN: I cannot answer that.

THE CHAIRMAN: Do you live on a bus route?

MR. BRONSTEIN: You will see from these letters which came from these people--from the general public--rather than the particular masses who are really affected. These are people who are not affected as much as those people who have not written, but it was amazing to me that about 20 per cent. of them attacked the T.T.C., and one of them even issued a writ against the T.T.C. -- at least, he wrote me to that effect -- and he filed a writ, and he told me that the girls become violently sick, but he has had no satisfaction at all from the T.T.C.

I assure you that you have a very broad field to cover, and I think it is being handled very nicely, and I will confine my activities to the buses and trucks to this end, that I would like to work with the Committee, and exchange whatever information we might have.

In my opinion, prior to the time your report is completed, and legislation is passed to implement these measures you recommend, there should be temporary relief

within the confines of Metropolitan Toronto, at least from those vehicles under the city's control.

You have written a beautiful interim report pointing out the need of it, and I think that before these measures are passed, Toronto can act in at least a temporary capacity to give some relief to its citizens.

MR. MACAULAY, Q.C.: Have you been given any indication that the city of Toronto would do anything about its vehicles?

MR. BRONSTEIN: No.

MR. MACAULAY, Q.C.: Do not hold your breath.

MR. BRONSTEIN: I will make reference to that, in any event.

THE CHAIRMAN: Have you talked it over with the Director of Smoke Abatement for Metropolitan Toronto?

MR. BELYEA: A few years ago, I met a lady who lived in North York, and she just could not go down town on a bus, because it made her sick. People have become nauseated, and that sort of thing.

MR. BRONSTEIN: I should give the answer by saying that it is a very real problem. I have gone through it myself.

MR. BELYEA: We have a great deal of evidence that a number of people have become sick and nauseated.

MR. BRONSTEIN: I would like you to look

through this file (indicating). There is ample evidence here that people do become sick. There is considerable evidence that there is much reckless driving, due to the buses, where a driver gets behind one, and will step out of line in an endeavour to pass, where he should not attempt to pass at all.

THE CHAIRMAN: To get away from the odour?

MR. BRONSTEIN: Yes.

MR. MURDOCH: Would you know if drivers could become more or less intoxicated from the fumes from diesels?

MR. BRONSTEIN: No.

MR. MURDOCH: I meant to say "impairment".

MR. BRONSTEIN: Are you suggesting it as an economy for drinking?

MR. MURDOCH: No. It was "impairment" I meant, from the fumes which to me, as a layman, might be possible.

MR. BRONSTEIN: You will find that is so.

MR. MACAULAY, Q.C.: What do you think it would cost per unit to change to propane?

MR. BRONSTEIN: $240.

MR. MACAULAY, Q.C.: If there are trucks and vehicles owned and controlled by the city of Toronto, you are hopeful the city of Toronto will instal them at

that price.

MR. BRONSTEIN: This was a quoted figure. The actual cost was $240.

THE CHAIRMAN: You are only talking about diesels?

MR. BRONSTEIN: No. To my understanding, this takes in all types.

MR. MACAULAY, Q.C.: Even their service cars?

MR. BRONSTEIN: Yes. Those which are owned by the city of Chicago were changed over. It was their own vehicles.

MR. MACAULAY, Q.C.: Not just trucks and buses?

MR. BRONSTEIN: Basically, trucks and buses, yes.

MR. MACAULAY, Q.C.: Did it include all their private cars?

MR. BRONSTEIN: I do not think so. Oh, I am sorry I mislead you. It is confined to buses.

MR. MACAULAY, Q.C.: Not even trucks?

MR. BRONSTEIN: No.

MR. MACAULAY, Q.C.: So it is a question whether the T.T.C. is controlled by the city?

MR. BRONSTEIN: Is there any question about that?

MR. MACAULAY, Q.C.: It looks to me as if there was some autonomy in the ownership.

THE CHAIRMAN: I think the best answer to that would be to have one of your Aldermen to see the T.T.C. and you may get your answer there.

MR. BRONSTEIN: Many thanks , and I will check with your files.

THE CHAIRMAN: Thank you for coming down. It is useful and helpful information you have given us, and we will be glad to help you in any way we can.

MR. BRONSTEIN: May I be included in the meetings of this Committee, or is that something you cannot permit me to do?

THE CHAIRMAN: These meetings are all open to the public.

MR. BRONSTEIN: May I be advised of your future meetings?

THE CHAIRMAN: We will advise you of any other Toronto meetings, which are open to the public.

MR. BRONSTEIN: Thank you very much.

THE CHAIRMAN: We have some visitors here from Hamilton. Mr. Joseph Reid, the Chief Air Pollution Officer, Dr. L. A. Clarke, the Medical Officer of Health, and Mr. D. H. Matheson, Chemist and Bacteriologist, Filtration Plant, of Hamilton.

Are you going to speak, Mr. Reid, on behalf of the group?

MR. REID: Yes.

J O S E P H R E I D,

Chief Air Pollution Control Officer, Hamilton, appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. We shall be very glad indeed to hear anything you may wish to say to us on behalf of yourself or your delegation, Mr. Reid.

A. Thank you, Mr. Chairman.

Q. I see you come from the "ambitious city".

A. You are not wrong when you term Hamilton "ambitious", because we are really going places, and it so happens that we are very much interested in air pollution.

I have prepared a little brief, which I hope will be acceptable at this time.

THE CHAIRMAN: Thank you.

THE WITNESS: The brief is not very long, and it reads as follows:

"Quoting from an Interim Report by this Select Committee to the Legislative Assembly of Ontario - "The Committee also recommends that provincial legislation should be enacted to give municipalities the power and duty to control the common and more simple types of air-pollution within their boundaries, and, perhaps, immediately adjacent thereto.

This Committee is of the opinion that there should be no exemptions made in any air-pollution control legislation which might be adopted".

There is no particular advantage at this time in belabouring a point in which we have reached a mutual agreement. Most of the briefs presented to this Committee at hearings in the different cities in Ontario, contained recommendations to amend the Ontario Municipal Act in those sections dealing with exemptions to a municipal by-law and other sections which stipulate only the control of products of combustion.

We are in agreement also, according to the Interim Report, that air-pollution in common terminology includes a wide variety of emissions, embracing invisible pollutants as well as fumes, vapours, dust and emissions of a like nature.

For the past five years in Hamilton we have had some success in dealing with smoke emissions.

At present, we need only a nominal policing effort to keep smoke emissions at a minimum. This fact may not be recognized by the public for, as a general rule they do not differentiate between the various pollutants. As the smoke emissions lessened, other contaminants became more prominent and so at this time the air mass over Hamilton is characterized by what could be termed a foundry haze under certain atmospheric conditions.

While we do have a purging effect with westerly winds and which incidently are prevalent, it can be shown, according to meteorological statistics, that industrial emissions pollute residential areas about 37% of the time on a yearly basis.

The topography of the area also has some bearing on the nuisance value of the emissions. Certainly the condition occurs often enough and is severe enough to justify corrective measures.

The problem of enforcement of the Hamilton City By-law No. 6650 respecting the control of smoke emissions is difficult. There is much to be desired in a by-law that enables prosecution in court for excessive smoke emissions to be instituted in one

case and gives immunity to particular industries in other fields. It could well be that the excessive smoke is the lesser of two evils.

Recognizing our own needs in air-pollution control, we propose enacting amendments to the said Hamilton By-law in the near future. These amendments will give greater scope to our activities in controlling air-pollution. While the technical information is lacking for tolerance levels in many of the industrial gaseous emissions at the present time, we feel that our next step in an expanding programme is in the control of fumes, dusts and vapours, not necessarily from a combustion source. These things presently are under the restrictions imposed on municipalities in the Ontario Municipal Act."

BY MR. MACAULAY, Q.C.:

Q. You made the statement that:

"These things presently are under the restrictions imposed on the municipalities in the Ontario Municipal Act."

What you mean is, as I understand it, the industrial waste emissions are excluded from your power to deal with them?

A. That is correct.

Q. And you want the power to deal with them?

A. Yes.

BY MR. ELLIOTT:

Q. Mr. Reid, there is one question I want to ask. For instance, in regard to diesels and buses going up heavy grades, and shooting out that terrific black smoke which actually suffocates anybody who is behind them, and not able to get by.

Have you any control over that kind of smog or smoke?

A. Under our present by-law, no.

Q. I wonder if we should not get in that we could control these diesels. I find, personally, that I get more complaints from people following trucks or buses going up the mountain.

BY THE CHAIRMAN:

Q. Is there anything in the law to cover that now?

A. No. It really is exempt.

Under the Ontario Municipal Act, it is difficult to expand a municipal by-law to take care of those conditions. There are so many restrictions imposed.

For instance, in the first part of the Ontario Municipal Act, it states specifically:

"For regulating the erection, construction,

re-construction, installation, alteration, repair, maintenance, operation and use of furnaces, incinerators, refuse burning equipment, outside open fires, boilers, chimneys, flues, smoke stacks and other apparatus, devices, mechanisms or structures used in or in connection with the process of burning fuel or other combustible material."

BY MR. ELLIOTT:

Q. They are burning fuel in automobiles.

A. That is correct. The only way to cover that is by the general nuisance clause. Then you run into the standards imposed by the use of the Ringelman Chart which precludes getting evidence against the buses.

Q. Doctor Clarke is here. I wonder if he has had any complaints regarding trucks and buses.

DOCTOR CLARKE: I do not recall any, Mr. Chairman, specifically dealing with trucks and buses.

MR. MACAULAY, Q.C.: It seems more of an undertone of grumbling, rather than outright objections.

DOCTOR CLARKE: There is nobody here who has had any experience about the thing which Mr. Elliott spoke. As you say, it is an "undertone of grumbling".

THE CHAIRMAN: As far as specific complaints to you, as the Medical Officer of Health; you do not receive any?

DOCTOR CLARKE: Not from road traffic. We do get complaints from people who live on properties adjoining parking lots for truckers and bus companies. I will slightly correct my first statement. We do receive complaints from premises such as I have mentioned.

BY THE CHAIRMAN:

Q. As far as the Chart is concerned, Mr. Reid, in trying to find out some degree of contamination from diesel motors, that would be very simple, as far as I am concerned; when you can see it, it is bad; when you cannot see it, it is all right.

If the diesel fumes are coming out of these trucks, they should be stopped and prosecuted, or they should turn in the vehicle, and get a new one.

If there are any fumes visible to the human eye, it is not that bad.

A. If you apply the Ringelmann Chart which is standard, it is based on shades between black and white to a field of grey. It cannot be applied for diesel motors, which characteristically emit smoke of a blue colour -- not necessarily a black one at all.

BY MR. MACAULAY, Q.C.:

Q. If you see the emissions, you do not need the Chart?

A. Where can you draw the line and say "this bus is dirty, and this one is free of dirt"?

Q. Any bus you see coughing out this stuff which is filled with particles of dirt?

A. That would necessitate a number of changes in our by-law.

BY THE CHAIRMAN:

Q. Do you think it would be a beneficial change? We can make them. That is what we are here for.

A. Apparently there has been some talk about the necessity of dealing with diesel emissions. I am not prepared to talk on that, specifically.

I am prepared to say this, that under any municipal by-law, you have a progressive developing programme, if the thing is properly organized. For instance, I do not think it would be fair to impose the full restrictions of any by-law on any industrial community in their entirety. I think the enforcement of a city by-law should first recognize there are emissions which can be lessened, and which are obnoxious.

After you have finished that, then you can

amend your by-law to take care of other conditions, as they develop.

BY MR. MACAULAY, Q.C.:

Q. Why not take care of them all?

A. I do not think the public is ready for the full application. I think there would be a resistance developed to that.

Q. There is a resistance to any law. Is it not a question of weighing the merits as against the injury?

A. Yes, that is true.

BY MR. MURDOCH:

Q. Of course, you realize it would be very difficult for this Committee to make a recommendation to the Legislature that industry "shalt not do this", unless we had some kind of a solution to offer them through some of our departments. I think the two go hand in hand. I think it would be difficult for us to make recommendations that will be liable to be eliminated.

BY MR. ELLIOTT:

Q. You would have to prove there is necessity for it.

A. You are thinking specifically of the exemptions under the Ontario Municipal Act?

Q. I am thinking about everything.

THE CHAIRMAN: The whole thing?

BY MR. ELLIOTT:

Q. Particularly the diesel machines. I think they have become the worst offenders, particularly in Hamilton, where there is the climbing of the mountain, and it is terrific at times.

A. I know it is. In our amendment to the by-law, we recognize we must find some other standard, and get away from the Ringelmann Chart.

BY THE CHAIRMAN:

Q. Will you enlarge on your statement as to the removal of exemptions? That is really what you wanted to talk about.

A. Yes.

Q. Then, will you get on to that phase of it?

A. Yes, sir.

BY MR. MACAULAY,Q.C.:

Q. What exemptions do you want removed, precisely?

A. I think subsections 4 to 6 in the Ontario Municipal Act should be deleted.

Q THE CHAIRMAN: It is Bill 138.

MR. MACAULAY, Q.C.: Is not that the Bill which deals only with the city of Toronto?

THE CHAIRMAN: No. It is entitled " An

Act to amend the Municipal Act".

MR. MACAULAY, Q.C.: Is it not designed for the Metropolitan Toronto area?

THE CHAIRMAN: No by-laws may be passed by villages, cities or towns.

MR. MACAULAY, Q.C.: What is the date of that?

THE CHAIRMAN: The first session of the twenty-third Legislature. That would be 1949.

BY THE CHAIRMAN:

Q. Why do you say it should be eliminated?

A. Subsection 4 reads:

"Subject to subsections 5 to 9 no by-law passed under this section shall apply to any apparatus, device, mechanism or structures referred to in paragraph 1 of subsection 1 on premises which, on the day upon which this Act comes into force, are used for the reduction, refining or smelting of ores or minerals or the manufacturing of cement, brick or tiles or as dwelling houses, except apartment houses, so long as the premises continue to be used for such purposes."

BY MR. MACAULAY, Q.C.:

Q. You say that should go?

A. Yes, I think so.

MR. MACAULAY, Q.C.: Yes, I think we do, too.

THE WITNESS: It is so stated in your interim report, that these things should be deleted or changed in a manner to give the municipalities authority to control those things.

MR. MACAULAY, Q.C.: May I ask some questions here, Mr. Chairman?

THE CHAIRMAN: Yes, certainly.

BY MR. MACAULAY, Q.C.:

Q. May I ask you, Mr. Reid, what you do in Hamilton in reference to garbage dumps?

A. You were not listening to the radio, I presume?

Q. I have not had the radio on in about eighteen months. Can you tell me?

A. We are very much concerned about it.

Q. What are you doing?

A. We are trying to get the City Council to erect a supplementary incinerator to take care of industrial waste.

Q. How do you dump your garbage at the moment?

A. We have a civic incinerator in use.

Q. It is one for the whole city?

A. Yes.

Q. And it handles the whole city?

A. At certain periods of the year, but at other periods of the year, we put it out of operation and use it as a fill.

Q. When you use the garbage in a "fill", is it compacted and covered with dirt, or just dumped into a pit?

A. It is generally dumped at the side, and then is compacted further back in the dumping area.

Q. They do not compact on a daily basis?

A. No.

Q. How often do they compact? Do they cover it with any dirt?

A. They do. As it reaches down further, they cover it with dirt.

Q. Do you think there is something to be desired with your city's own garbage, to do your own dumping?

A. We are trying to have that fixed.

MR. ELLIOTT: I think that is something Doctor Clarke could answer.

BY THE CHAIRMAN:

Q. Is your department getting calls about the polluted air in the vicinity of the dumps?

A. Yes.

BY MR. MACAULAY, Q.C.:

Q. You have on incinerator which works at

certain seasons of the year?

A. Yes.

Q. Do you think you need another one?

A. No. Our incinerator is large enough to deal with the garbage from the city.

Q. We are interested in that. How many tons per day does it hold?

A. I cannot answer that.

THE CHAIRMAN: Can you answer that, Doctor Clarke?

DOCTOR CLARKE: No; I do not know, Mr. Chairman.

THE CHAIRMAN: Have you any rough idea?

DOCTOR CLARKE: No.

THE CHAIRMAN: It adequately handles all the waste of the city of Hamilton?

THE WITNESS: It could.

BY MR. MACAULAY, Q.C.:

Q. What do you mean by "it could"? Is it not used to capacity now?

A. Some of it is dumped because of the distance to the incinerator.

Q. What by-law have you in Hamilton about back-yard incinerators?

A. We have no specific by-law which covers that.

Q. People can construct their own incinerator in their own back yard?

A. They can, but we try to discourage it. We do not have a nuisance from them.

Q. How do you discourage that?

A. Under Doctor Clarke's administration, he has a clause which prohibits the use of an incinerator in June, July, August and September, if it is found to have a nuisance value in the neighbourhood.

Q. It would depend whether there were complaints?

A. Yes.

BY MR. BELYEA:

Q. One and two-family dwellings are exempted, even in the summer time?

A. That is part of the Ontario Municipal Act.

BY THE CHAIRMAN:

Q. Would you be prepared to recommend to the Committee that in forming our legislation, backyard incinerators be not permitted, and to what degree?

A. If you, in your wisdom, recommend changes to the Legislature,and amendments be enacted to the Ontario Municipal Act, then the city is prepared to write a by-law to cover our own conditions.

Q. What do you think personally, as an air-pollution expert? Should we or should we not?

A. I think you should.

Q. No backyard incinerators?

A. If you delete this subsection 4, then it would not apply. As I say, subsection 4 reads as follows:

> "Subject to subsections 5 to 9 no by-law passed under this section shall apply to any apparatus, device, mechanism or structures referred to in paragraph 1 of subsection 1 on premises which, on the day upon which this Act comes into force, are used for the reduction, refining or smelting of ores or minerals or the manufacturing of cement, brick or tiles or as dwelling houses, except apartment houses, so long as the premises continue to be used for such purposes."

If you delete that, you would give us automatically power to incorporate in the city by-law the prohibition of domestic incinerators.

THE CHAIRMAN: How do you feel about that, Doctor Clarke?

DOCTOR CLARKE: I agree with Mr. Reid. Recently, I passed through a small community in which I noticed that in each backyard, there is a little oil drum for the disposal of the garbage from the house.

That is one situation.

I am speaking only in regard to the city of Hamilton. You have to think of the province of Ontario. As far as Hamilton is concerned, unless garbage incinerators can be constructed which will burn garbage without smoke and odours, it would be my opinion they should be prohibited.

BY MR. MACAULAY, Q.C.:

Q. What about burning leaves? Have you any by-law with reference to burning leaves?

A. Only under a general nuisance clause in our general by-law.

Q. There is nothing to stop them until they become a nuisance?

A. That is right.

BY THE CHAIRMAN:

Q. Do you do as we do in Toronto, burn our leaves on the street?

A. There was some done in Hamilton. Naturally, you cannot stop it altogether, but we certainly restrict it as far as we are able to.

MR. MACAULAY, Q.C.: I understood you to say -- as an authority on a great many subjects -- you say you cannot burn leaves on the street?

THE CHAIRMAN: That is right, it is against the law.

MR. MACAULAY,Q.C.: In Hamilton, that is not so?

THE WITNESS: Wait a minute. I understood the first question was about burning leaves. I do not think it was confined to burning them on the street.

In Hamilton, the by-law, under the Sanitation Act, provides that you cannot use the streets for burning leaves. It does not prohibit a man burning them in his own backyard.

MR. MURDOCH: What about ours?

THE CHAIRMAN: We cannot burn them on the street.

MR. MACAULAY, Q.C.: But you can, in your backyard?

THE CHAIRMAN: That is right. Personally, I think it is a great relaxation for a man to burn a few leaves. It is inherent in all of us. We like to burn things.

Is there anything else?

THE WITNESS: No. If you think I have adequately covered our problem, I am satisfied.

BY THE CHAIRMAN:

Q. In simple terms, you want us to propose to the House that the exemptions be done away with

immediately, and not wait for the final report of the Committee?

A. Yes.

BY MR. MACAULAY, Q.C.:

Q. One other thing. What about steamships in the harbour at Hamilton? What have you to say about them -- or have you anything to say about them?

A. I have considerable to say about it, but it is not too effective.

BY THE CHAIRMAN:

Q. Do you feel the way I do that you do not want to talk about it in public, but what do you do about steamships, generally? Has the city of Hamilton tried to bring the steamships under the by-laws of the city?

A. No, we have not, but I will admit right now and I concede, that is a mistake . We should have instituted prosecutions against steamship companies just to find out what would happen to them.

Q. Are you going to find that some people are opposed to it?

A. No, I am not bound by anybody's opposition. I do not think I should listen to that.

BY MR. MURDOCH:

Q. Would you care to comment on the city of Windsor, which has recently, through our Smoke Abatement

Officer, charged steamships with excessive smoking?

A. I have heard of that.

Q. They are doing the very thing you suggest. They are having a test case in the courts in regard to that matter.

A. That is what I think we should be doing. I think maybe we are a little weak-kneed about it.

BY MR. ELLIOTT:

Q. You should find out where you stand?

A. Yes.

THE CHAIRMAN: Gentlemen, we are running pretty close to our time, and I think we will say "thank you very much",Mr. Reid and gentlemen. I think we will be asking you further questions along these lines.

---Messrs. Reid, Clarke and Matheson retired.

THE CHAIRMAN: Mr. Dill, you have written to the Committee, but it is time for us to adjourn for luncheon, and then we have a short inspection of our own equipment. Will you have time to come back this afternoon, and we will be glad to hear from you, otherwise we will ask you to submit what you have to say in writing.

MR. DILL: I cannot come back this afternoon.

However, I will say that in the last two years there has been some improvement. It is possible that when winter sets in, it might be a good time to look into these institutional buildings around here.

---The following letter from Mr. Dill was accepted and made a part of the record, and is in words and figures as follows, to-wit:

"Gentlemen:

When the wind is from the south, south-east or east, we waken in the morning with our rooms reeking of soft coal gas.

We have traced the source of these gases to several institutions in the area bounded by Spadina Ave., College Street and Bay Street which are using soft coal.

Among these is the Royal Ontario Museum. The University of Toronto Central Heating System and other large buildings are also using soft coal. Sometimes, at night, an apparent fog blankets the streets from the area described above north to the hill above the C.P.R. tracks and Davenport Road. Investigation reveals that it is not fog but gassy coal smoke. Outside this area the streets are clear, unless there is a real fog, though slightly misty if raining, When there is a real fog elsewhere, it is a gassy smog in our neighbourhood.

It would be appreciated if the situation might be investigated and cleaned up."

---The following was submitted by Mr. H. A. Belyea, and was accepted as evidence to be incorporated in the minutes and is in words and figures as follows, to-wit:

"The Select Committee of the Legislative Assembly on Air Pollution and Smoke Control, Province of Ontario.

Gentlemen:

Mr. Ross L. Clark, Works Commissioner of Metropolitan Toronto is anxious to have the Air Pollution by-law now effective in the Toronto area re-written and enacted in the entire Metropolitan Area.

Until this is done his staff cannot be organized to inspect the various other municipalities which at present are without inspection services. As well, building permits are being issued without approval of the Air Pollution department and administrative and legal difficulties are bound to arise in attempting to control sources of pollution now being permitted.

On behalf of Mr. Clark I urge the Select Committee to recommend removal of the exemptions on special industries permitted under the smoke control section of the Municipal Act at the

forthcoming special session.

Personally, I feel this is an opportunity to show the public that the Committee is acting promptly and is clearing the way for effective municipal ordinances.

This action, in enabling control over a few well defined nuisances should not in any way affect the orderly examination by the Committee of the numerous special problems such as damage to health, property and vegetation by the railways, shipping, automobiles, radioactive fallout, pollens and so on. In fact, removal of the exemptions will ease the pressure to conclude and finalize the complicated problem at the next main Session. The Committee may find extended study not only desirable but necessary to assure legislation and recommendations of the highest order.

Yours very truly,

(signed) 'H. A. Belyea' ".

THE CHAIRMAN: Gentlemen, we will adjourn for luncheon, and you can leave everything here, because we will come back to this room after the adjournment.

We will re-assemble at two o'clock in the boiler room of the East Block.

---Whereupon at 12:29 of the clock p.m., the further proceedings of this Committee adjourned until this afternoon at two of the clock, p.m.

- - - -

A F T E R N O O N S E S S I O N

Toronto, Ontario,
Tuesday, September 11th,1956,
3:00 o'clock p.m.

- - - -

The further proceedings of this Committee reconvened pursuant to adjournment.

Mr. A. H. Cowling, Chairman,
Presiding.

PRESENT:

Messrs. Elliott,

Murdoch,

Macaulay, Q.C.,

Morningstar,

Gordon,

Thomas (Oshawa)

Dr. F. A. Evis, Secretary.

APPEARANCES:

Mr. Harry Belyea,	Hygienic Engineer, Department of Health, Ontario.
Mrs. F. E. Gardner,	Weston.
Mr. William Norgate,	Smoke Abatement Officer Metropolitan Toronto Dept.of Works.
Dr. H. Cullumbine,	Prof.of Pharmacology, University of Toronto.

- - - -

THE CHAIRMAN: Shall we bring the meeting to order?

We had representation from the Department of Lands and Forests, and perhaps Doctor Evis will just tell us about that.

DOCTOR EVIS (Secretary): Honourable Mr. Mapledoram sent Mr. Beattie, Chief Surveyor, down to the Committee, and they intend to submit a brief dealing with four matters which come within the concern of their department.

The first one is the sulphuric acid plant at Cuthbert, on the north shore. That is damaging timber.

The furnace of the ore company in town 1(a) in the Sudbury district, which apparently is doing some damage.

The third item is an increase in the damage to forests from the furnace at WaWa, in the Algoma district.

The fourth matter is that he is going to comment on the forest fires started by coal-burning locomotives which pass through the forest areas.

THE CHAIRMAN: In speaking to Mr. Beattie, he proposes to have his brief in some time within the next couple of weeks, and it may be that, as a result,

we should take a look at some of these situations. In any event, the Committee will have the brief within two weeks' time, and we can discuss it then.

We are very pleased to have with us, Doctor Harry Cullumbine, Professor Pharmacology at the University of Toronto.

Doctor Cullumbine is from the University of Manchester, Pharmacology Department, in England, and he has very kindly consented to come over and meet with us, and discuss with us some of the problems they have had over there, and some that we might be having here. If you will take it from there, Doctor Cullumbine, we will be delighted to hear from you.

DOCTOR HARRY CULLUMBINE,

Professor of Pharmacology, University of Toronto, appearing before the Committee, but not being sworn, deposes and says:

BY THE CHAIRMAN:

Q. Doctor Cullumbine, will you please proceed, in your own way?

A. Well, sir, I have read this interim report, and it is, if I may say so, an excellent summary of much of the information which is available. I presume you would like me to mention something about the medical

aspects of the air pollution problem?

Q. If you will, please, Doctor.

A. That is one of the things we have been working on for the past three and one-half years, since the smog in London in 1952.

Before I came here, I was in charge of the Medical Research Department of the Ministry of Supply, and we were given the job of assessing, as far as possible, the medical hazards which the different pollutants in the atmosphere might produce.

Now, if I may develop my theme: much of it you may have heard before, but I would like you to see it as I saw it.

Fog itself is a natural phenomenon and relatively harmless, and only when it is contaminated with man-produced impurities does it become dangerous, and these man-produced impurities are produced by the combustion of fuel,chiefly coal, coke, gasoline, diesel oil and so forth.

For example, it is estimated that over Great Britain the combustion of coal alone produced something like six million tons of sulphur oxides a year, and that corresponds to about nine million tons of sulphuric acid.

The air is full of oxides, carbon, nitrogen,

hydrogen, sulphur and so on, and all of them are potential irritants and toxic. Most of it is in the form of particulate matter, and anywhere from 60 per cent to 75 per cent. of this particulate matter is too large to be dangerous. Removing dirt from the atmosphere does not necessarily mean you are removing the health hazard. The pollutants in the atmosphere can produce very acute or chronic effects.

If I can consider, first, the acute effects; these, in order to be produced, require certain specialized meteorological conditions mentioned in the report, such as low wind speed and the inversion of the normal air, temperature gradients, and so on. This allows the contaminants to accumulate over a given area, and the examples of the accumulation producing acute toxic upsets are pretty well known.

To run down some of the main ones, there is the MeuseValley in 1930, at which time 265 people were killed; the Denora occurrence in October, 1928, when sixty-one people were killed.

London has had several. There were the London fogs of December, 1873, when 650 people were killed; the London fog of January, 1880, when 1117 people were killed. Then there was another London fog in December, 1892, when 779 people, it is estimated,

were killed.

There was another London fog in November and December, 1948, when about 300 people died, it is estimated, and then, of course, the great smog of December, 1952, when over 4000 people were killed, although different people give different estimates. I think Martin gave an estimate of 5000.

We can take that London smog, because it is the best evidence we have on the other side.

In this London smog of 1952, the total death rate during the week of smog was increased by 2.6 times over the previous week -- two and one-half times.

For example, the death rate of all those increased, especially those under one year of age, and those over 45 years of age.

The deaths from bronchitis were increased by eight times, and the deaths from lobar pneumonia by nearly three times, and deaths from respiratory tuberculosis by more than five times, and all the deaths due to respiratory disorders were increased by over five times.

BY MR. MACAULAY, Q.C.:

Q. You said deaths by respiratory tuberculosis increased five times?

A. Yes.

Q. Therefore, tuberculosis of the lungs was induced and brought about deaths in that short period?

A. No, that is not necessarily true. I will take that up later, but I will answer it partially now.

What it means is that the incidence of deaths amongst people with respiratory tuberculosis was five times greater in that week than in the previous week. They already had the disease.

It was the same with bronchitis. Many of them had already had the disease. They may never have died from bronchitis, and many of them may not have died from respiratory tuberculosis.

BY THE CHAIRMAN:

Q. Shall we interrupt you as you go along, Doctor Cullumbine, or shall we wait until you are finished, and then ask any questions which may occur to us?

A. Oh, please interrupt as we go along, if any question occurs to you or to any member of the Committee.

BY MR. ELLIOTT:

Q. Was the percentage higher amongst older people?

A. Yes, In all of the age groups, the death

rate increased, but especially those under one year and those over forty-five. The older they were, the greater the increase in deaths.

Q. In percentages?

A. Yes. The respiratory deaths, as a whole, increased by 5.7 per cent., and diseases of the heart increased 2.5 per cent. Not only was the death rate increased, but the actual extent of the illness or morbidity was increased. The emergency hospital system we now have under the National Health Service programme reported twice as many admissions that week than had ever occurred in the past. The previous highest was the influenza epidemic in 1951.

We also collected information from the general practitioners, and they again reported an excessive number of visits they had to make, or patients calling upon them.

From all the practitioners, we collected a general clinical picture which was shown in three main types; the first was that the people had an irritating cough, sore throat, and increased nasal discharge. That was due obviously to irritation of the upper respiratory tract.

Secondly, the gastric irritation and sudden vomiting; bronchitis, bronchial obstruction and

embarrassment of the heart, fever, and many of them died.

Now, man is not the only specie who is susceptible. If I might mention the fog or smog of 1873 and the smog in London in 1952, it will be noted that each occurred during the Smithfield cattle show.

BY MR. ELLIOTT:

Q. How long would they last after getting a good dose of this?

A. The period in the 1952 smog, which is really the only well-documented one we have there is about twelve hours before a patient started to come to the doctor, or deaths started occurring, that is, before a person himself called upon medical aid.

Q. They got home, and had time for their evening meal, and by morning they were affected?

A. Yes, but there was this twelve-hour period before anything happened.

The Smithfield cattle show in both of those years, 1873 and 1952, each had a number of cattle seriously ill, and 30 per cent. died or had to be slaughtered.

BY THE CHAIRMAN:

Q. Out of what number of cattle?

A. I think in the Smithfield show, it was 750 cattle -

and they were all prize cattle -- died in 1873.

Of course, there were some cattle in and around London at that time and many dairies were situated in the Greater London area in 1873, and there were reports of increased death rates amongst those cattle.

BY MR. MACAULAY, Q.C.:

Q. Is there any possibility of estimating the contamination or damage from the produce of the animal, as a result of its own infection coming from the smog?

A. No.

Q. Such as milk from a cow?

A. No. I can say "no" --

BY MR. BELYEA:

Q. Some of these cattle from the less sanitary stables were not affected?

A. Yes, and that was interesting. I will take that point up later. It is a result of the observations that we, ourselves, made.

Q. Were you in this smog yourself?

A. I was in the smog.

Q. Can you tell us what it was like? How it appeared?

A. It was very dark indeed. I was badly disappointed, because that day I had been invited to

lunch with the Directors of the Chelsea Football Club. I was interested in athletics and I think I picked the first Olympic team, and I had come to know these people.

I was going to a champagne luncheon with the Chelsea Football Club, and that was the day the smog started, and I never did get to the champagne luncheon, so I am not a proper person to tell you about it.

However, the visibility was probably not over five yards; you were covered with dark, tarry particulate matter as you walked about; your white shirt was smeared with this dark mess, and it was extremely difficult to breathe.

It came upon you quite suddenly. If you went into London on a train, you went through suddenly a black wall due to the smoke.

BY MR. MACAULAY, Q.C.:

Q. And, conversely, you could go back out of it again?

A. Yes.

Q. How quickly did this phenomenon occur?

A. That is really fantastic, how quickly all this smoke developed. It occurred very suddenly. If you consult the meteorological records, you will see that it settled, and you had maximum invisibility within about three hours.

It did get a little worse on the fourth day, but almost as suddenly it disappeared.

Q. How long did it last?

A. About five days.

Q. Was there anything done from a higher-up level to closer down?

A. Yes. At times, the whole thickness of the smog was about 300 feet.

BY MR. ELLIOTT:

Q. 300 feet above the ground?

A. Yes.

Q. Could the sun get through?

A. None at all. Some of the factories with chimneys, located on hills, had the tops of their smoke stacks sticking out of the top of the smog, and planes flying over London reported this peculiar sight of one or two chimney stacks sticking up over the top of the blanket of smog.

BY MR. MACAULAY, Q.C.:

Q. Were there clouds over it, holding it down?

A. It was a combination of a complete lack of sun, and atmospheric conditions.

BY MR. BELYEA:

Q. Did they take the inversion temperature?

A. Yes.

Q. Have you the figures?

A. I have them somewhere. The peculiar thing about it, from a meteorological point of view, is there have been five similar meteorological conditions reported in the past, and since. Most of the meteorological scientists do not understand just exactly why. They know we would have fog, but why we should have this severe smog again, they do not know.

BY THE CHAIRMAN:

Q. Were you in town here a week ago when we had what we considered a very bad fog, which lasted for two or three days? Were you here a week ago?

A. Yes.

Q. It was not bad, from a London standard, but to us it was very bad, and with the rate of inversion and the lack of air movement, and with contaminants going into the air, it could have been built up into a similar thing as London?

A. Yes. The meteorologists cannot explain why that particular one occurred, nor could they say definitely whether there will be another one or not.

I think the same thing applies to most industrial areas.

BY MR. MACAULAY, Q.C.:

Q. The fact that we never had one, does not mean we could not suddenly have one?

A. Yes, and that is the opinion of most meteorologists.

BY MR. ELLIOTT:

Q. You say the deaths would occur in about twelve hours?

A. In some cases. People kept on dying during the whole week.

Q. When people have been affected, is there anything you can give them to relieve them in that time? Can you save them in that period?

A. Perhaps if I could go on, I am coming to that point.

If I can recapitulate, the clinical picture we saw in these fogs of 1952, and 1948, in London, and some reports from the Meuse Valley and Denora in Pennsylvania, it was a condition that caused embarrassment of the heart, fever, toxemia, and so forth, when we breathe.

You get the same thing in post-mortems, the same pathological picture in cattle and humans. Many of them died, and autopsies were done, and we got the same pathological picture, and it is all consistent with the inhalation of irritant substances.

Now, what is an "irritant substance" in the atmosphere? That is what everybody wants to know.

Unfortunately, we cannot say for certain, because no lethal smog has ever been adequately sampled, and the samples competently analyzed for their chemical and physical properties.

Therefore, we were handicapped on the medical-research side, by the fact that we do not know what the toxic gases might be; either oxide of carbon, oxide of sulphur, oxide of nitrogen, or what? The atmosphere contains water vapour, hydro carbons, and acetic salt, as you might get a variety of contaminants.

In addition, this particular contaminant is in another form, and you must know how it is developed, because when certain particles are produced, one is certain to be an irritant.

In addition to that, the Meuse fog, the Denora fog, and the last two London fogs were associated with a low ground temperature.

We started out by studying animals and humans, by taking the obvious contaminants, for example, the sulphur oxides. Sulphur dioxide is always present in the air-pollution studies. The maximum quantity which has ever been reported is two parts per million; in the London smog, the maximum was 1.34 parts per million; the maximum allowable concentration is 10 parts

per million,10.5 times higher than ever reported in a smog.

We do not agree that it is the maximum allowable concentration, and our experience shows that if we did a large enough experiment, we could get irritation sometimes with as low as 1 part per million amongst some susceptible subjects, but we must remember we are dealing with smog, and with a large population.

BY MR. BELYEA:

Q. What percentage would be susceptible?

A. At one part per million, something like one half of one per cent.

Our experience with animals showed if you exposed animals to smog, you increased the toxicity, and you have an additive effect between smog and carbon dioxide.

The other oxide, sulphur trioxide, or sulphuric acid mist, is not usually sampled, but it is usually assumed it is there in small concentration, and Ellis, in London, did report in one of the fogs in London that there might be as much as three times more sulphuric acid mist present than sulphur oxide.

Fortunately, it was not large in London in 1952.

They could, of course, give certain facts.

The maximum allowable concentration of sulphuric acid mist is given as about one-fifth part per million. Here we may have had four parts per million.

Our experiments show that with a low concentration like that, damage can be produced in animals, and irritation to humans, but if you increase the particle size, you increase the toxicity of that mist, to such a particle size as might occur in the atmosphere which would be definitely harmful and irritating, especially to people with pre-existing bronchitis or asthma, or something like that.

In addition we showed that coal increased the toxicity, so again we have two factors, coal increasing the toxicity, and sulphuric acid mist.

We have studied coal tar distillations. They themselves are not particularly harmful, unless they occur with increased concentration.

Wood distillation could be harmful, because of the fact of high sulphuric acid concentration, and contains aldehydes in addition. But wood is not burned to any great extent in most cities.

Two other later sources of contamination are, of course, gasoline exhaust fumes and diesel oil exhaust fumes. We have studied the diesel oil exhaust fumes, and we have identified what we think are the three major

toxic factors, namely, carbon oxide, nitrogen dioxide, and aldehydes. The relationship might depend upon the running condition of the diesel engine. It depends on the fuel ratio.

You will also have carbon monoxide and that fact will increase the toxicity of the other two, nitrogen oxide and the aldehydes.

With an engine running in a normal manner, as they do in most instances, nitrogen dioxide is the main toxic factor, and that could produce death from pulmonary edema .

The aldehydes are potentially produced when the load is light, and when the air intake to the engine is obstructed. If you have a worn injector in your motor, you are more likely to produce aldehydes. The difficulty is that all aldehydes are irritating or toxic. We found that the unsaturated aldehydes are far more toxic than the saturated one , and we found one which was extremely toxic and irritant, and which produced gross damage to the whole respiratory tract, and produced lachymation or crying, inflammation of the chest and throat, and so on.

Those are produced under conditions where you have diesel vehicles in conditions where they are proceeding in low gear and very slowly.

Gasoline engine fumes are particularly toxic, because they have a higher grade of monoxide content than the diesel.

Normal gasoline oxide fumes contain about 5 per cent., whereas the maximum allowable concentration is between 100 per cent. and 200 per cent. so you have a degree of safety there, but it has been calculated that the carbon dioxide in the atmosphere in the London smog in 1952 increased at the same ratio as the sulphur dioxide itself.

If the carbon monoxide increased in the same proportion as the sulphur dioxide, you would have had a concentration of about 300 parts per million, as in the London smog of 1952, it would be not lethal, but harmful.

We have a whole host of information of which are toxic. In the urban areas, you will have these oxides of carbon, nitrogen and sulphur, and hydrogen carbon, such as aldehydes, all irritants and all potentially toxic.

We believe that the London smog of 1952 was probably due to the heavy oxides, and with the conditions existing in London, sulphur oxide was the major problem.

But that is not necessarily true for all

districts, and each particular one is important, and may vary from area to area depending on the type, the number of industries, the number of vehicles passing through the area, and so on and so on.

Now, if I can make one or two points which have been taken up so far.

If the sulphur oxides are the important irritant or toxic agents in the atmosphere, you should be able to neutralize them, and we found we could in animals prevent sulphuric acid mist or sulphur oxide being produced in the fogs at all by adding ammonia to the atmosphere.

We came across that, because we found if the animal cages were not kept clean,the animals never died from sulphuric acid mist or sulphur dioxide, and the reason why the cattle in the Smithfield show died but not the sheep and pigs and poultry is because the cattle were on the first floor of the show, and their pens were kept clean. They were cleaned every hour, so they would not offend visitors, whereas the sheep were on the second floor and people were not too particular about cleaning up the pens, and the result was that the feces and droppings were allowed to remain, and we believe that is the reason why the cattle died, but not the others.

We found we could neutralize the effect by adding ammonia. We did that, and it was suggested if people would disperse ammonia in their homes, people who had chronic bronchitis or asthma would not suffer from the effects of smog, and the Medical Research Council decided they would give it a trial if another smog occurred.

I do not know whether you have seen the bottles in which air-wicks are used to put into rest rooms, and so forth. Well, the same kind of bottles were made and they were handed out through clinics to people who were known to suffer from asthma, through fogs, and they were handed these bottles and told if there was a fog, they were to use them. The chronic respiratory wards in the hospitals also had them.

There was a minor fog last November in London, and many patients for the first time had a full night's sleep, and they all attributed it to the presence of the ammonia bottles.

You need about two drams of ammonia to neutralize the atmosphere in a typical six-roomed house, and about two grams to neutralize the atmosphere in a normal hospital ward.

It is not toxic itself in the air. You only have to neutralize about two parts per million of

sulphuric acid mist, and two parts per million of sulphur dioxide, so there is a fair amount of safety there.

I believe that is good evidence, from our point of view, that acedic and sulphur oxides are possibly the contaminants in the London atmosphere.

There are two or three other points I would like to make, if I may.

It has been calculated that the sulphur dioxide during the London smog was 2000 tons per day, and it was estimated that about 70 tons were present in the smog, or only about 3.5 per cent. of the amount emitted stayed. If you think about that, you will see it was only a small portion which stayed, but 3.5 per cent. stayed, and we had 4000 deaths.

The margin between safety and danger is extremely small, and that should be borne in mind. However, we found out, if we increased the concentration slightly, we got an enormous increase in toxicity.

From the medical point again, I must stress another point, and that is that we are handicapped by the fact that we do not really know what is present in the atmosphere. Most people sampling the atmosphere, depend on how much dirt is there, and they ignore most of the other constituents. Even the figures

given for dirt are not very helpful. 50 per cent. or 75 per cent. of it may not be harmful, because you cannot breathe it in. Even sulphur dioxide may not be a good figure, because much of it may not be determined by the methods of sampling which we use.

You must remember that all the figures are given on a 48-hour basis usually. There may be periods when the concentration is much higher than is shown by the final report as an average.

What we need is much better sampling, so we can get a better idea of the more rapid fluctuations than we have at the present time. So on the chronic side, less is known, because it is more difficult to prove. .

Two things have been suggested as might being caused by atmospheric pollution. One is a chronic bronchitis. Certainly in England the existence of chronic bronchitis and the number of illnesses and deaths is higher amongst the urban population than in the rural areas, and it is higher amongst the urban population with higher atmospheric pollution, than with a lower atmospheric pollution.

But other things are co-related with the incidence of chronic bronchitis with the degree of pollution;

There are studies going on in Britain to try and elicit the part that air pollution plays in chronic

bronchitis. It is interesting to see what conditions might lead to acute bronchitis, because it is the chronic bronchitis patient who is subject to the atmospheric pollution.

BY MR. MACAULAY, Q.C.:

Q. Obviously, those persons who suffer from chronic bronchitis are persons who are sort of on the danger list, when the smog develops?

A. They are not dangerously ill.

Q. I do not mean that. They are the persons most likely to be stricken by any damage produced by the smog?

A. Yes, anybody with a pre-existing respiratory disease, such as bronchitis or asthma, or heart disease -- especially those who are over forty-five or under one year of age, are likely to be seriously affected and die.

Q. Can you give me any indication of the percentage of those who are suffering from chronic bronchitis who are affected by air pollution?

A. I have not the statistics with me.

Q. Do you believe it to be high, sir?

A. I think it is high, yes. You would be in an unusual urban community, if it was not high.

Q. What about heart trouble? We are just

laymen; what about the heart problems? Are they normally susceptible, as a result of this smog? Is there any particular kind of heart problem, and what percentage of the population seems to suffer from that heart condition.

A. Unfortunately, we do not know. There are no figures on the morbidity. There are figures for people who are ill, and figures for the deaths.

Q. But people can be killed without going to a hospital?

A. That is right.

Q. Do you believe also that that figure is high?

A. I think it is as high as it is anywhere else. There is no difference in your death rate, so presumably you have the same number of people ill, proportionately.

Q. It is highly possible where we have smog or some increase in deaths in these two categories, that they could be co-related with the deaths suffered in London?

A. Yes.

Q. There is one other question I want to ask you. Have you co-related the damage from smog or air pdlution in any way in connection with cancer of the lungs?

A. Yes. That was the next thing about which I was going to speak. Air pollution may cause lung

cancer. I think in Great Britain, deaths from lung cancer have increased considerably. 3400 died in 1875, and 12,000 died in 1950. There have been far more cases of lung cancer. There is no doubt that pollution has something to do with it, and it is also true that so far there have been three factors which are encountered, and which can be recognized as producing cancer; they are the benzpyrene, arsenic and radioactive products.

All these factors could produce lung cancer. They have produced lung cancer in animals.

Q. You have to do it by research, rather than by industrial investigation?

A. You can get inferential evidence, but not conclusive evidence, that smoke is a factor in the production of lung cancer.

MR. MURDOCH: Not only smoke, but a continued atmospheric condition?

THE WITNESS: Yes.

BY MR. MACAULAY, Q.C.:

Q. Would you conclude that the locus operandi is not limited to London?

A. No.

Q. It is ubiquitous?

A. Yes.

BY THE CHAIRMAN:

Q. You said that six factors were involved, as were shown by the autopsies performed on some of those who died?

A. Sulphuric acid mist, sulphur dioxide, carbon monoxide, Oxides of nitrogen, the unsaturated aldehydes and the additive effect of the carbon in smoke which increases the toxicity of sulphuric acid and other air pollutants in the atmosphere.

There is this evidence suggesting that; we are definite about that, but it is difficult to say that there is evidence of these six factors altogether.

Q. Does that pretty well wind up what you wished to say?

A. Roughly, yes.

Q. Tell me this; you are making your home in Toronto?

A. That is right.

Q. How long have you been here?

A. Two months.

Q. Would you care to comment on the air pollution and smoke situation here in Greater Toronto, as compared with Greater London? How are we doing here?

A. I do not think that would be fair. You

referred to a condition which you said you had last week. That could occur in London today. You might say that it is like it occasionally occurs in London.

Q. What about dirty smoke, that comes out of the chimneys? Do they have that in London?

A. Yes.

Q. I think as a result of the Beaver Report, those things would be eliminated.

A. The Beaver Report has been published; it has not been implemented.

Q. Do you feel that most of the recommendations will be implemented?

A. Legislation has been introduced and passed in the Houses of Parliament, and I did sit on the Inter-departmental Committee, where industry was represented, and discussions were had with them, in regard to the drafting of the smoke-abatement Act.

They will be implemented. Of course, the cost is enormous.

Q. The cost of not implementing it is enormous too, in terms of life?

A. Yes, indeed.

BY THE CHAIRMAN:

Q. They have been working on it over there for more than 300 years, and we have just had it a few years

here.

Would you care to comment on why it has taken you 300 years to get on with it?

A. What do you mean by "working"? Discussions?

Q. And action.

A. There was some action, yes. During the war there was some smoke-abatement work done, because it was easily applicable to the industrial areas, but it has been slight since the war. There has not been any brief from the public.

BY MR. MACAULAY, Q.C.:

Q. Do you suspect that is a ubiquitous situation?

A. I do.

BY THE CHAIRMAN:

Q. You say -- and we have found in our studies -- that the success of any air pollution problem depends on public interest?

A. It is the public you should keep after until they have done something.

Q. During the work of the Committee, we hope to inform the public.

A. Oh yes; maybe they will react.

BY MR. MACAULAY, Q.C.:

Q. There is no doubt, Doctor Cullumbine, that

it is better to do everything we can to prevent this condition, and it must be cheaper from a health point of view to hit this problem in its infancy, rather than try to deal with it later on by a series of ineffective palliatives?

A. Yes.

BY MR. THOMAS (Oshawa):

Q. You say it was passed by the House of Commons in London?

A. Yes.

Q. How will it be enforced? By the local people?

A. Yes. That is one of the studies they did. They know which are the progressive communities, which are likely to implement the Act, and those which are not likely to. They are trying to determine the incidence of bronchitis where they know that atmospheric pollution will remain, irrespective of the Act.

BY THE CHAIRMAN:

Q. You had a wealth of experience over there; we are just beginning here, and all of our municipalities have smoke-abatement laws, and have had for several years, but they are inadequate and have not done the job.

The legislation under which the province has been operating has not been adequate, and is not

adequate now.

Would you care to give any advice or information which you think we might like to have on some of the things we could do in starting a real good programme for cleaner air?

A. That is a dandy question, and I will take a "whack" at it anyway.

I am prejudiced in this thing in that I would like to find out a little more about the possible contamination in the atmosphere to discover what the medical effects are which are produced here.

I think that each community may have its own specific problem, and I think once you get your hygienists and sampling people out, and you find out what the particular hazard is in each area, and support your medical research people, so that they can assess the hazard of whatever they find, the better it will be. You cannot enact blanket legislation which will apply to all areas, but almost certainly each community has its own specific problem.

BY MR. MACAULAY, Q.C.:

Q. This province of Ontario has said to certain municipalities, "Thou shalt not enact legislation touching the following industries".

A. We think that permitting legislation enabling

them to pass by-laws would be better than denying them the right.

Q. You would give them the right to pass by-laws?

A. Yes.

Q. You say you want to know more about the components of the atmosphere, but I judge you would not deny that, in the meantime, there are certain known factors we might well attack?

A. Yes. You must make certain that all your fuels are efficiently burned. You must remove the sulphur oxides from any coal-burning equipment.

Q. The carbon monoxide and the sulphur oxide must be removed from the exhausts of your vehicles?

A. Yes. When you remove them, you remove most of the factors of which we know at the present time.

Q. So if we operate on this, while you are going ahead finding out what is there, we will be accomplishing something?

A. Yes.

Q. I have always felt, since I started my interest in this subject, that there has been too much emphasis placed on smoke, simply because it is a large calamitous matter in a sense, and not enough emphasis on the damage continually going on every day, in a less drastic way?

A. I agree with you. Just before I came over here, we had planned to start a study of smog and fogs and all this atmospheric contamination, because that had not been done so far.

That is what I would like to do here.

Q. You would say that although a smog can increase the debility and chance of death -- also that continual air pollution is quite possibly the cause of much of the existence of bronchitis, and the smog may knock them off.

A. It produces damage to the lungs which makes them susceptible to the accumulation of smog.

BY THE CHAIRMAN:

Q. That is precisely why more people are that way, than formerly?

A. That is right.

BY MR. BELYEA:

Q. Is there anything else you would like to study, Doctor Cullumbine? Can you tell us any way in which the province or municipalities might assist in your work?

A. Speaking from the health point of view, there are sulphuric acids in the atmosphere, and from a health point of view, I do feel that people who are going to sample the atmosphere should bear in mind the

needs of the medical men, what they want to know.

The medical men want to know in what particular form we have these contaminants, and there are certain contaminants they are particularly interested to know about.

BY MR. MACAULAY, Q.C.:

Q. What agencies now, and under what sponsorship, are studies of this problem of air pollution being made from a scientific point of view?

A. In the United Kingdom?

Q. No, sir, here.

A. I do not know. There is the Ontario Research Foundation, of course, which is also co-operating with the Hamilton Branch of the Canadian Manufacturers Association.

Q. That is not quite what I had in mind. I had something along the line you have mentioned.

A. You mean the medical side?

Q. Yes. Are you, yourself, engaged in any medical research here?

A. I am hoping to start. I have not started as yet.

BY THE CHAIRMAN:

Q In England, how are they implementing the recommendations? You say that Parliament has passed

legislation?

A. Yes.

Q. And it is enabling legislation for the municipalities to take action?

A. I feel it is passed; I am not certain it is.

Q. Is it compulsory in the municipalities to take action?

A. There is no definite date set as yet.

Q. In the State of California, they have enacted legislation which is compulsory that it be done, and I think that is the only place in the country where that has happened.

In assisting the municipalities to get action, they have set up a Board or Commission to assist them. What is the breakdown? I am not very clear on that.

A. There is a committee on which representatives from the departments, and scientific and industrial research agencies, which has contact with each industry -- I am giving you the governmental departments first.

There is the Ministry of Health, and the Medical Research Council. Then there are representatives from the major manufacturing concerns. I forget the exact name, but we call them the "inter-departmental committee".

Q. It is a committee?

A. Yes, they go back with advice as to how to do the things, and we tell them what they are going to do and they discuss it, and they go back and advise their own industry, and the various channels through which they can get advice.

Q. Can municipal officials go to this committee and get help?

A. They can go to lectures on health, or through their Burrough engineer, and to the Department of Scientific Research, depending on how each municipality has organized its own air-pollution committee.

Q. This would be the top air pollution committee about which you were speaking?

A. Yes. This was left to the various municipalities or county councils, that is, to put the Act into effect.

Q. Can a municipality go to this inter-departmental committee and get scientific information?

A. That is right, yes. I was on the Medical Research Council and the Department of Scientific Research is represented on the committee.

BY MR. BELYEA:

Q. Do you think this Committee should go to England to study the problem?

A. I would not know. I would have thought that

some of the places in the States where legislation has been written, might be helpful.

BY MR. ELLIOTT:

Q. Is not the coal dirtier burning, when burned in private homes?

A. That is right.

Q. Just the same as the backyard incinerators they are using here?

A. I suppose so.

Q. Every home has its own incinerator, and the homes are much dirtier than here?

A. Yes.

Q. And each industry just emits all they wish? There is no limit of time, such as six minutes, as we have here.

A. I understand here it is limited, to some extent, yes.

Q. You can see it for miles along the railways, that is, the smoke coming out of those industries?

A. Yes.

BY THE CHAIRMAN:

Q. Would you say that our Parliament is moving in on the thing in lots of time to do something about the problem now existing?

A. That is right.

BY MR. MACAULAY, Q.C.:

Q. Perhaps this is not a thing to worry too much about, but could you make any use -- I hardly know how to say this -- of funds granted, or is there room for a medical research body sponsored and maintained by the government? Is there any need for that?

A. I am going around with my hat in my hand looking for money, which is almost impossible to obtain, to study air pollution. I did not come to this meeting with that end in view. I am trying to put my hands on some money to get apparatus to start to work.

MR. MURDOCH: I think that is one of the important things we have to consider, this very thing, of aiding a medical research body in regard to air pollution.

BY MR. MACAULAY, Q.C.:

Q. You think you need some money? If money was made available to you, how much money are you talking about?

A. The major expense would be at the commencement, because of the cost of apparatus, and I think two men and a boy working full time could get through most of the remaining problems --

Q. I am thinking of industry.

A. -- in three or four years, unless something unusual turned up from the point of view of sampling, which other people might wish. I cannot give you an estimate now. I have not thought about that.

Q. I do not know what the Chairman will say about this, but I think that this is a very important facet of our whole thing. We cannot constitute ourselves as experts on this subject, so would you be prepared to give an unofficial memorandum as to what you think is needed to study this problem, and what it would take to maintain it.

A. That is easy. I have notes already made.

THE CHAIRMAN: I think that is fine. I think that is part of our study, to have all the information on air pollution we can get, and the medical aspect is one facet of it.

We understand there are certain grants available through the Health Department of the Federal Government, supposed to be available to the provinces for this work. We have not been successful in getting an answer from them, but we are going to Ottawa before very long and see what can be done.

We hope to meet with the Minister of Health for Canada, and will ask him that question, and then we will be in a better position to answer your question.

However, your advice is valuable now. We would like to know how to get at it, and I suppose you do, too.

THE WITNESS: That is what I want.

MR. MURDOCH: You are suggesting Doctor Cullumbine submit some memorandum to this Committee which would cover the thing as he sees it at the present time?

THE WITNESS: That is correct.

MR. ELLIOTT: I think we are asking a great deal from the Doctor. He has not been here long enough. The problem is not at all comparable to the one over there. They are just five times as dirty as we are.

BY MR. MACAULAY, Q.C.:

Q. Could you give an estimate of how much equipment you would need, and staff?

A. Yes, we have that information.

Q. Will you tell us what you have by way of assistance, and what you need?

A. Yes.

BY MR. THOMAS (Oshawa):

Q. What is the Ontario Research Foundation doing?

A. Nothing, on the medical side.

MR. BELYEA: I think it is wonderful that a man like Doctor Cullumbine should come into our district

He is a gift from Heaven, and he should be encouraged.

THE CHAIRMAN: I think he will find himself most active in the problem of air pollution, not only in Metropolitan Toronto, but in other places.

MR. MACAULAY, Q.C.: You could not have come at a more propitious time.

MR. MURDOCH: In agriculture, we are discovering new diseases of fruits and vegetables all the time. We have many diseases we do not understand today, many of which we did not have twenty years ago.

BY MR. MURDOCH:

Q. Do you think there is any significance in the air pollution and the new diseases of farm crops? Is there any indication of that in England?

A. Personally, I would not know.

I have heard that discussed in the Medical Research Council in England. Some of that Council deny there is any connection between new plant diseases and air pollution. I have heard others say there may be some connection.

Again, that evidence is circumstantial and largely laboratory evidence, but they have produced peculiarities in the plants.

Q. Doctor Bobrov , in California, has made certain studies along this line, but at the present time,

it is confined largely to California.

A. There are many things about the smog which are very curious.

BY MR. THOMAS (Oshawa):

Q. Due to the effect on the economy?

A. That is right, and there are high contents of atmospheric conditions throughout England.

BY MR. MACAULAY, Q.C.:

Q. So one is not safe in saying that just because one does not have an oil burner or a coal-burner, they are not susceptible to having smog?

A. No. What it means is, they have accentuated the things present in most atmospheres.

THE CHAIRMAN: Doctor Cullumbine, it was very nice of you to join us. We are pleased to make your acquaintance, and I am sure that during our studies, we will like to call upon you again from time to time.

THE WITNESS: Thank you, very much.

THE CHAIRMAN: You will receive notice of our next meeting.

THE WITNESS: Thank you, Mr. Chairman and gentlemen.

---The witness retired.

THE CHAIRMAN: If there is nothing further,

we will adjourn now to reconvene in the city of Welland on Monday, September 24th.

- - - - -

---Whereupon at 4:15 of the clock p.m., the further proceedings of this Committee adjourned until Monday, September 24th, 1956, at two o'clock in the afternoon, to reconvene in Welland, Ontario.

- - - - -